

# the American Perfumer and ESSENTIAL OIL REVIEW

COSMETICS · SOAPS · FLAVORS

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## Editorial Comment

### Distributor Responsible for Private Label Products

A distributor of private label cosmetics of a manufacturer who contracts for merchandise is responsible for compliance with the Food, Drug and Cosmetic Act. The Circuit Court of Appeals for the Seventh District recently so ruled.

This particular case involved hair lacquer pads. The distributor supplied the contractor with jars, caps, labels, display cards, flannel pads and shipping containers. The contractor in turn was to manufacture, pack and ship the pads. The manufacturer entered into an agreement to impregnate the pads with a shellac lacquer. Later, a gum was substituted for the shellac, and this material proved to be deleterious.

Even though the use of the gum was stopped by the distributor when it learned of the substitution, it was held responsible when the court said: "The person who brings goods into commerce, by whatever means or implements, is bound to see that the commodity thus put in commerce is not beyond the pale of the legislative act."

### Cosmetic Tax End Asked by Committee for Economic Development

Last month, a subcommittee of the Committee for Economic Development recommended the elimination of excise taxes on cosmetics, to become effective in 1950.

The committee further recommended that excise taxes be retained only on tobacco, alcoholic beverages and gasoline. This would result in a cut in revenue from this source of about \$4,000,000,000.

### Canada Prohibits Toilet Preparations Imports

Imports into Canada of toilet soap and toilet preparations, including perfumes, are prohibited under an order announced Nov. 17, by Finance Minister, Hon. Douglas Abbott, which practically deprives Canada of any benefit it might have received on any kind of imported goods under the Geneva trade agreement. Also banned are paper boxes, facial tissues, paper novelties and petroleum jellies.

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# Desiderata

by MAISON G. DENAVARRE



M. G. DeNavarre at work in his laboratory

## COSMETIC PB REPORTS

Of the many PB Reports (also referred to as FIAT or BIOS Reports by some) that have come from the various technical intelligence teams that visited Europe as well as special reports made by governmental agencies on different projects, are a few that have been published by a private publishing company. PB Reports No. 40465-6 by Giese and Wells review the experimental work done in the development of a sunburn protective cream that would fulfill the requirements of the military. Together both reports comprise 23 pages and sell for a dollar each. The authors find as a result of their tests, that certain combinations of sunscreens were best under the conditions of test as well as certain types of formulations having highest screening properties, maximum sweat resistance and comfort in use. For those interested in sunburn preparations, these two reports are worth reading. While they cover established knowledge on certain well-known sun screens, the confirming information and a method of arriving at it is quite valuable.

Two other reports published by the same company are PB 47720 by Lanning and Clark (also called BIOS 748) describes the manufacture of fatty acids by oxidation of paraffins and the hydrogenation of these acids. The main value that this report has to the cosmetic manufacturer is a description of the type of acids that result from this process. In view of American activities along this line, it is not amiss to be posted on the subject. The report is priced at \$2.00.

Still another report by Sheely, PB 2422, entitled "Production of Synthetic Fatty Acids, priced at \$3.00,

considers synthetic fatty acids more completely, giving the nature of the various fractions and their constants as well as tonnage produced in Germany. Here again as above, the current interest in synthetic fatty acids makes it important for the cosmetic chemist to be posted. In this report there is an interesting bibliography of 71 different patents or articles which are of further value.

The report most interesting to cosmetic manufacturers is one written by Karas, PB 47526, entitled "The German Cosmetic Perfumery and Soap Formulae" priced at \$5.00 from the same publisher. In this report Karas, well known as a chief chemist for a leading American cosmetic house, investigated a number of German cosmetic and perfumery manufacturers. Eight targets were visited and these are leading cosmetic manufacturers in Germany. Their formulas are given in this report as are the formulas for a great many perfume compounds used by these companies. Two blue prints showing apparatus for making liquid soap and creams add to the value of this report.

## STERILIZED GUMS

One supplier of gums is offering locust, karaya and tragacanth gums as powders that have been given a "sterilizing treatment." For example, gum tragacanth containing 6852 bacteria and 160 molds showed 99.3 per cent bacteria killed and 100 per cent of the mold dead. In karaya gum powder, 31,913 bacteria and 19,198 molds per gram were 99.3 per cent and 100 per cent respectively killed. Powdered locust gum containing 1380 and 69 molds each per gram were 100 per cent killed by this treatment. This

sterilizing treatment does not mean that the gums are *sterile*. It means that the colony counts of bacteria and molds has been greatly reduced. In foods, drugs and cosmetics, this "germ" reduction has great significance. It becomes much easier to preserve products containing them. Interesting too is the high mold and bacterial count of karaya gum . . . this answers the question of why mucilages made with karaya gum are so hard to preserve.

## FLAVOR CHEMICALS

Allyl cyclohexyl propionate, ethyl cyclohexyl acetate and phenyl ethyl butyrate are offered as flavor and perfumery esters. The same supplier has a useful eight-page leaflet listing all the flavor chemicals according to type. Tiglates, isovalerates, anthranilates, cyclohexyl esters, allyl esters, caproates and caprylates are among those listed. Previously, many of these were imported. The quality is good.

## F. T. C. AND HORMONES

Everyone knows that there has been a great deal of activity within the Federal Trade Commission on all sorts of things, including drugs and cosmetics. One never knows the exact attitude unless a case is brought up before them. Recently, the Federal Trade Commission ruled that six hormone preparations were dangerous and hence could not be advertised to the public unless the advertisement also disclosed the fact that such a product might result in serious injury to health if its use was unad-





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vised, presumably by a doctor. The case in question involved the indiscriminate sale and advertising of male and female sex hormones of high potency, similar to those used by a physician. Among the findings as to fact, the Commission ruled that, "The indiscriminate and continued use of the drugs may produce an unfavorable influence upon highly sensitized reproductive tissues, a disturbance of the menstrual and other reproductive functions, and temporary or permanent sterility, resulting in serious disturbances to the sex life of an individual, and other serious injuries."

Just how far the F. T. C. can go with this precedent is hard to say. The first thing that comes to mind is use of estrogen, a potent compound, in cosmetic creams. The potency used by medicinal standards is extremely ineffective therapeutically since the jars usually contain not more than 10,000 International units per ounce while a single injection from a physician will contain at least 10,000 units (and as many as 50,000 or 100,000 units) or as the case requires. Some medical authorities have insisted that even this low concentration might produce serious disturbances within the female body. Cosmetic manufacturers on the other hand, based on their own research, have quite well established that the amount of estrogen used does not produce these disturbances, though used regularly, and that the use of estrogenic creams would not produce an undesirable histologic change of the skin of womankind as shown by biopsies. One noted endocrinologist has lectured on this subject after making his tests. Another noted dermatologist has made a considerable number of biopsies; his information is to appear in a suitable scientific vehicle. Other unpublicized work has also been done, no doubt. Even so, the threat implied by the Federal Trade Commission action should not go unnoticed by this industry.

#### GLYCERYL DERIVATIVE

One of the British chemical houses is offering a p-chlorophenyl alpha-glyceryl ether as a preservative for external preparations. It is used in somewhat the same concentrations as are the para-hydroxybenzoates. No evaluation of this chemical has been made in this country to this writer's

knowledge. It will be interesting to see how it really works out. If it doesn't work out, it poses some very interesting thought along the line of condensing glycerin with several of the chlorinated phenols that have established themselves as pretty good antiseptics. The glyceryl radical should enhance solubility.

#### CATALASE

When it comes to completely decomposing hydrogen peroxide, about the only way it can be done is by means of a powerful reducing agent

in equivalent amounts, or by means of adding a catalyst like the enzyme catalase. One supplier now offers catalase commercially. Concentrations of 1:2000 to 1:50,000 have been found to decompose all the hydrogen peroxide. It is most effective between pH 3.5 to 10.0 but is inactivated by boiling and by certain chemicals such as hydrogen sulfide, some iron complexes, and the usual protein denaturants like formaldehyde. The use of hydrogen peroxide can now be widened at the same time its full value can be had.

## QUESTIONS AND ANSWERS

#### 672. TOOTH PASTE FORMULA

*Q: I should be greatly obliged if you could give me a formula for a good foaming tooth paste of smooth consistency, similar to Colgates Ribbon Dental Cream.*

V. T.—CALIFORNIA

A: We do not know the composition of Colgates Ribbon Dental Cream and therefore cannot give you a formula that is like it. However, the following formula has found usefulness as a dentifrice and we give it to you as a starting point for your experimental work:

	Parts
Sorbitol Syrup	100
Wetting Agent	10
Flavor	6
Mineral Oil	2
Lt. Precipitated Chalk	200
Alcohol	10
2 per cent Irish Moss Mucilage	100
Soluble Saccharin	1/2

#### 673. CREAM SHAMPOO

*Q: Kindly inform me about full formula cream shampoo referred to in April 1947 number. Also, kindly send me your 1947 version of the wetting agents bulletin. Enclosed please find check to your order for \$15.00 to cover cost and registered mailing.*

S. E. D.—CUBA

A: The full formula for twelve cream shampoos was given in a table in the article you refer to. Just read down vertically in any column and it

will give you the proportion of the various ingredients. For example, in table 1, under formula number 1, it will require 70 parts of Alropon, 8 parts of Calgon, 15 parts of Tetrasol and 107 parts of water, to give a solid cream shampoo. In the same table under formula 10, it requires 1 part of lanolin, 35 parts of 40 per cent liquid soap, 10 parts of milkifier No. 1 and 54 parts of water to give a liquid cream shampoo. In regard to the wetting agents bulletin, this has not yet been published, although it will soon appear in THE AMERICAN PERFUMER. Your check for \$15.00 is being returned to you. This service is gratis.

#### 674. COCOANUT OIL SOAPS

*Q: In making liquid cocoanut oil soaps is it customary to use cocoanut oil or cocoanut fatty acids? Does a 20 per cent liquid soap customarily contain oils or fatty acids other than cocoanut? What about a 40 per cent liquid soap?*

M. F. G.—KENTUCKY

A: Ordinarily, cocoanut fatty acids are used in making cocoanut oil soaps today. If the cocoanut oil soap is intended for washing the hands or hair, it is invariably modified by the addition of a small percentage of either oleic acid or castor fatty acids. The same would apply to the stronger soaps, provided it was intended for use as indicated.



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# Ester Preparation

*Recent developments of the preparation of esters with alkyl or aralkyl halides and*

**KURT KULKA\***

*metallic salts of organic acids are summarized by the author*

**E**STERIFICATION is one of the broadest fields in chemical science. Due to the huge demand for esters, much work has been done on the development of old and new methods to prepare these valuable products.

Although the preparation of esters with alkyl halides and metallic salts has been known a long time, more recent developments elevated it to an important production method used in the "aromatic" chemical industry.

This type of ester synthesis has its favored place: (1) in the preparation of: (a) benzyl esters from benzyl chloride; (b) esters derived from other halides; (2) in the preparation of alcohols; (3) in certain cases—where direct esterification is not advisable due to lack of sufficient activation energies of the acid; (4) in analytical chemistry to identify acids by some of their crystalline esters.

The following is an attempt to summarize important facts concerning ester preparation with alkyl or aralkyl halides and metallic salts.

The reaction proceeds according to:  $R'COO Me + X R'' \longrightarrow R' COO R'' + Me X$  as a double decomposition between a salt and the halide.

The reactivity of the parent reactants varies considerably in different cases. Potassium salts undergo this reaction more readily than the sodium salts. In laboratory practice, preference is often given to silver salts. Regarding the halides, we find that the iodides—as expected—are most reactive, chlorides are from 20 to 100—times less reactive, and bromides are in between these two.

The relation between the structure of n-alkyl chlorides and speed of their reaction was studied by Conant and co-workers.<sup>1</sup>

They reacted different n-halogen compounds with potassium iodide in acetone solution at temperatures varying from -10 deg. to 60 deg. C.

The relative rates were not influenced by the tempera-

ture of the reaction and 50 deg. C as the standard temperature was chosen. The following table shows the relative reactivity of n-saturated alkyl chlorides at 50 deg.

$\eta$ - $C_nH_{2n+1}Cl$	used as a standard.	relative reactivity:	1
$\eta$ - $C_2H_5Cl$			2.52
$\eta$ - $C_3H_7Cl$			1.08
$\eta$ - $C_4H_9Cl$			1.35
$\eta$ - $C_5H_{11}Cl$			1.30
$\eta$ - $C_6H_{13}Cl$			1.25
$\eta$ - $C_7H_{15}Cl$			1.35
$\eta$ - $C_{10}H_{21}Cl$			1.
$\eta$ - $C_{12}H_{25}Cl$			— .92
$\eta$ - $C_{18}H_{37}Cl$			— .92

Branching of the chain diminishes the reactivity. For example:

$\begin{array}{c} CH_3 \\ | \\ CH_3-CH-Cl \end{array}$  Isopropyl chloride has a relative rate of reactivity of: 0.015

$\begin{array}{c} CH_3 \\ | \\ CH_3-CH_2-CH-Cl \end{array}$  sec. Butyl chloride has a relative rate of reactivity of: 0.022

$\begin{array}{c} CH_3 \\ | \\ CH_3-(CH_2)_2-CH-Cl \end{array}$  sec. Amyl chloride has a relative rate of reactivity of: 0.048

$\begin{array}{c} CH_3 \\ | \\ CH_3-C-Cl \\ | \\ CH_3 \end{array}$  tert. Butyl chloride has a relative rate of reactivity of: 0.011

$\begin{array}{c} CH_3 \\ | \\ CH_3-CH-CH_2-CH_2-Cl \end{array}$  Isoamyl chloride has a relative rate of reactivity of: 0.700

Thus ethyl chloride proved to be about twice as reactive as n-butyl or n-propyl chloride. The series from n-propyl

\* Dodge and Olcott, Inc., Research Department, Bayonne, N. J.



chloride to  $n\text{-C}_{30}\text{H}_{61}\text{Cl}$  shows little change in reactivity. The behavior of methyl chloride is interesting, being from 5 to 20 times more reactive than ethyl chloride, as found by different investigators.

#### STABILITY AND REACTIVITY

Alkyl and aralkyl halides are esters themselves and as such relatively stable compounds.

Classifying them, we find that the primary ones ( $\text{R-CH}_2\text{-Halogen}$ ) and such with higher molecular weight are more stable than the secondary one ( $\text{R}_2\text{-CH-Halogen}$ ) which are usually stable towards cold water, but decomposed by hot water or alkali carbonate solutions, whereas most of the tertiary halides ( $\text{R}_3\text{-C-Halogen}$ ) are extremely sensitive and some of them are decomposed even by cold water. Aromatic halides are more stable toward hydrolysis than the aliphatic halides of the same molecular weight.

Secondary and tertiary alkyl halides show a remarkable decrease in reactivity compared with the primary compounds having the same number of carbon atoms. More specifically—from the reaction of alkyl chlorides with potassium iodide in acetone solution—the following rates were deduced:

Secondary chlorides are only about 0.05 times as reactive as the respective primaries and the relative reactivity of tertiary chlorides of the same family was found to be only about 0.01.

The variation in reactivity of the individual members of secondary and tertiary alkyl and aralkyl halides is much greater than those of the primary saturated compounds.

A stabilizing effect is observed, if one of the following group is connected with the carbon, attached to the halogen: Phenyl, carbonyl, carbethoxy, cyano, amido, methoxy, nitrophenyl, bromophenyl and chlorophenyl.

#### UNSATURATION ON REACTION SPEED

The influence of unsaturation on the reaction speed was investigated by Conant and co-workers.<sup>4</sup>

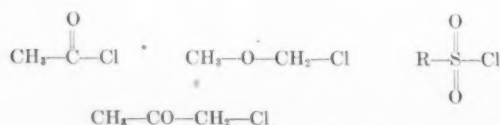
The respective organic halogen compounds were reacted with potassium iodide, again employing acetone as the solvent and *n*-butyl chloride as the standard. Allyl chloride and other unsaturated members of the alkyl halides having the double bond in a position similar to the halide, reacted 79 times faster than *n*-propyl chloride or the other saturated compounds.

The bromides and iodides showed a correspondingly enhanced reactivity. If the double bond is moved to a distant location from the halogen, the special reactivity diminishes. In the extreme, little or no activating influence can be observed.

Vinyl halides, in sharp contrast to this rule, react only sluggishly. Examples follow:

Vinyl bromide: $\text{CH}_2\text{:CH.Br}$ .	grade of reactivity inert very reactive normal
Allyl bromide: $\text{CH}_2\text{:CH.CH}_2\text{Br}$ .	
1-bromo-3-butene: $\text{CH}_2\text{:CH.CH}_2\text{CH}_2\text{Br}$ .	

An oxygen atom near to the halogen activates the later considerable. For example: compounds like:



are several thousand times more reactive than *n*-butyl chloride.

The presence of an H-atom on the same C activates the halogen—the presence of 2 halogens on the same C decreases their reactivity.<sup>10</sup>

#### WORKING CONDITIONS

To obtain the best possible yields, a few generally applicable physical and chemical working conditions should be observed.

#### EQUIPMENT

To avoid interference with metals, halides are favorably reacted in glass or enamel lined vessels.

These days reaction tanks and agitators coated with special types of plastics can be added to the possible choice of proper equipment.

#### DRYNESS OF THE REACTANTS

In those cases where the reaction is conducted either in a neutral medium (inert solvent) or by direct interaction of the salt on the halide, complete dryness of the reactants should be observed. Even traces of water invite possible side reactions as for example: alcoholysis or hydrolysis. Conant<sup>4</sup> excluded aqueous or alcoholic solutions from his experiments on account of the formation of HI occurring in these media. HI might have furthermore caused a partial reduction of the organic halide according to



There are, however, processes well known and are mentioned in this survey, in which aqueous alcohol or even water is used as the solvent.

#### SOLVENTS

The use of an inert solvent should be considered from different points of view. The solvent should facilitate agitation, thus increasing the number of collisions between the reacting molecules. The reaction rate might be increased this way. The diluent effect of solvents might be furthermore applied to prevent breaking up of sensitive compounds.

Another application is in temperature control. Different solvents have different boiling points giving the possibility of conducting the reaction at certain, desired temperatures.

A variety of proper solvents is at the disposition of the organic chemist, dealing with this type of reaction. Heptane, hexane, benzol, nitro-benzol, are only a few to be mentioned.

In acetylation acetic acid finds wide application.

Using an aqueous alcoholic solution as the solvent is the objective of British Patent 220,721 and U. S. Patent 1,459,971.

Halogenated saturated aliphatic hydrocarbons are reacted with a metallic salt of an acid, whereby a lower monohydric alcohol and an amount of water sufficient to dissolve the salt, are employed. Any desired salt of an acid may be reacted. Preference is given to salts of aliphatic acids, for instance: Sodium formate, sodium oleate, sodium butyrate, etc. In the aromatic series, sodium benzoate and sodium salicylate are mentioned.

The reaction is conducted at temperatures between 100-150 deg C under pressure, which may vary considerably, being usually between 50-3-400 pounds per square inch.

Chemical reactions are speeded up with increase in temperature. This fact gains importance with regard to the usually slow proceeding reaction of alkyl and aralkyl halides with metallic salts.

It was noted for example<sup>4</sup> that it took 36 hours for butyl chloride to react to an extent of 50 per cent at 50 deg. C whereas at 60 deg. C only 15 hours were required. Autoclaves are therefore sometimes used in connection with this type of synthesis.

#### CATALYSIS

For the same reason mentioned before, catalysts will be advantageously applied. Metals in finely powdered form—for instance, copper—may be used in this respect. But the partial decomposition of the halogen compound occurring at the same time reduces the value of this procedure.

Silver oxide was recommended first by Liebermann and Lindenbaum.<sup>9</sup> Silver acetate by Seelig.<sup>13</sup> Lead acetate by Bodroux.<sup>1</sup>

A small amount of methyl alcohol often helps to start the reaction which is sometimes delayed.

Applying a small amount of an organic base—for instance trialkyl amines, pyridine, etc., to accelerate the reaction of salts of organic acids or the free acids with alkylhalogenides was the objective of DRP. 268,621 issued on November, 1912.

#### PREPARATION OF BENZYL ESTERS

According to this patent, benzyl benzoate was prepared by heating to 95-100 deg. C for 30 minutes:

- 100 parts potassium benzoate
- 120 " benzyl chloride
- 1 " triethanolamine

Isoamyl benzoate was prepared by heating to 120-130 deg. C for 30-40 minutes:

- 100 parts potassium benzoate
- 160 " isoamyl bromide
- 1 " pyridine

Volwiler and Vliet<sup>17</sup> used the secondary base "diethylamine" as catalyst to prepare different benzyl esters.

Benzyl salicylate was synthesized by heating sodium salicylate with a slight excess of benzyl chloride and a small amount of diethylamine in an oil bath at 130-140 deg. C for 17 hours.

The reaction mixture was cooled, washed with water and after removal of the excess benzyl chloride by steam distillation, the remaining ester was distilled. The yield was 85 per cent.

In a similar way and with a similar yield benzyl cinnamate was produced. Benzyl-p-nitrobenzoate was obtained in a yield of 85 per cent by reacting 50 g. of sodium p-nitrobenzoate with 50 g. benzyl chloride in presence of 2 cc. diethylamine at 130 deg. C for 24 hours.

The scarcity of benzyl benzoate during the last war elevated the production of this chemical to an important research project.

Rueggeberg, Ginsburg and Franz<sup>12</sup> describe their studies in this respect. They obtain the best result by the interaction of 1 mol. of dry sodium benzoate and 1.4 mol. benzyl chloride in the presence of 0.45 to 0.65 per cent by weight of a tertiary amine, based on the total weight of both reactants.

The temperature is kept between 110-140 deg. C during 1 hour reaction time. The yield is over 90 per cent.

The superiority of tertiary amines as catalysts—in particular triethylamine and methylmorpholine, is stressed.

The sodium benzoate must be free from benzoic acid, to avoid neutralization and therefore ineffectiveness of the catalyst.

#### PROCEDURE

0.5 mol. of dry sodium benzoate,

0.7 " of benzyl chloride,

1 ml. or 1 g. of the amine catalyst

are stirred together. The temperature is raised to 90-130 deg. C during 10 minutes and then kept between 100-140 deg. C during the reaction time of 1/2-2 hours. Thereafter the reaction product is washed with water. The water part is treated with carbon tetrachloride and this extract added to the organic layer. After removal of the solvent, the ester may be purified by the usual methods.

The stability of benzyl chloride toward hydrolysis and the C=C—C—Cl structure, resulting in an enhanced reactivity of the halogen, favor the method of Gomberg and Buchler<sup>7</sup> for the preparation of benzyl esters in aqueous medium. The yield of ester will be determined by the rate of the possible 3 principal reactions:

- 1.)  $C_6H_5CH_2Cl + H_2O \longrightarrow C_6H_5CH_2OH + HCl$
- 2.)  $C_6H_5CH_2Cl + NaOCOR \longrightarrow C_6H_5CH_2OCOR + NaCl$
- 3.)  $C_6H_5CH_2OCOR + H_2O \longrightarrow C_6H_5CH_2OH + HOCOR$

Different experiments with benzyl chloride and salts were conducted to find the conditions best suited for this ester synthesis.

Efficient agitation and a sufficient excess (up to 200 per cent) of the salt is essential for good results and must be mentioned in the first place.

The excess salt favors the ester formation (reaction 2) according to the mass law and depresses the reaction aiming to the alcohol formation (reaction 1). The optimum yield of benzyl benzoate was reached after 6 hours reaction time<sup>12</sup>. After this period the yield dropped, probably giving place to partial saponification of the ester (reaction 3).

In the following, various results obtained by Gomberg & Buchler are summarized.

**Benzyl benzoate:** 220 g. sodium benzoate are dissolved in 150-200 cc. water and 64 g. benzyl chloride are added. The reaction flask connected with a reflux condenser is kept in an oil-bath having a temperature of 118 deg. C for 4-5 hours. The reaction mass is efficiently agitated during the reaction period. Thereafter the ester is extracted with benzol, the extract dried and fractioned. After a small section of benzyl alcohol, the ester distills at a constant boiling point in a yield of 79 per cent = 84 g. From the water part 143 g. benzoic acid are recovered.

**Benzyl acetate:** 53 g. sodium acetate, 32 g. benzyl chloride are reacted over a period of 8 hours in aqueous solution. The bath temperature was 115 deg. C the yield 82.6 per cent = 31 g.

**Benzyl propionate:** the salt prepared by neutralization of 64 g. acid with  $Na_2CO_3$  was dissolved in 100 cc. water 32 g. benzyl chloride were added and the ester prepared in a similar way described before. Yield 85 per cent.

**Benzyl butyrate:** 66 g. of the acid, after neutralization with caustic soda, yielded: 83 per cent ester, after the usual reaction with 132 g. of benzyl chloride.

benzyl lactate	55 per cent
benzyl phenylacetate	75 per cent
benzyl salicylate	40-45 per cent
dibenzyl succinate	43 per cent
formic- oxalic- and o-phthalic acids	gave no results.

H. A. Shonle and P. Q. Row<sup>14</sup> prepared esters of this type by reacting benzyl chloride with the anhydrous alkali salt of the fatty acid, which was dissolved in an excess of the resp. acid.

The formed NaCl was removed by washing with water, unreacted benzyl chloride recovered by steam distillation and the ester recrystallized from alcohol.

From an economical point of view only such halides will be seriously considered, which are available at lower prices than the respective alcohols.

Esters of ethylene glycol can be prepared from ethylene halides.<sup>11</sup> A well known example is glycol-di-acetate, which is commonly derived from ethylenebromide and potassium acetate in acetic acid solution.

Another example for the use of an amino catalyst in this type of reaction is described in U.S. Patent 1,260,289 dealing with the preparation of  $\beta$ -bromoethyl ester of p-nitrobenzoic acid, which results from the reaction of:

- 15 g dry sodium salt of p-nitrobenzoic acid,  
15 g ethylene bromide  
and 1/2-1 cc, diethyl amine.

It is advisable in many cases to react the halide with potassium or sodium acetate and to saponify the resulting ester in order to liberate the desired alcohol. This way the formation of olefins and other unwanted by-products can be avoided, which sometimes result from the interaction of alcoholic or aqueous alkalies on alkyl halides.

BrC1C(Br)C(=O)OCC1      or      CC1C(C)C(=O)OCC1

Acids can be identified by their solid esters, for example: p-nitrobenzyl, phenacyl, p-chlorophenacyl, p-bromophenacyl, p-phenyl-phenacyl-esters.

An excess of NaOH should be neutralized with HCl. 10 cc. of alcohol and 1 g. of phenacylbromide are added and the mixture heated to reflux.

1	hour reflux is applied in cases of monobasic acids,
2	" " " " " " " " dibasic acids, and
3	" " " " " " " " tribasic acids.

A solid which might precipitate should be dissolved by adding a few drops of alcohol. On cooling the ester crystallizes and is purified by recrystallization.

Not recommended is the reaction of halides of polyhydric alcohols with metallic salts of higher fatty acids.<sup>5</sup> The reaction renders only poor yields, furthermore the obtained compounds may not be uniform due to possible acyl migration.

<sup>1</sup> Rodroux, Bull. Soc. Chim., (3) 21, 288, 1892.

<sup>2</sup> Carter & Cox, U. S. Pat. 1,459,971.

<sup>4</sup> Conant & Hussey, *J. Am. Chem. Soc.*, **47**, 476.

Conant & Kirner, J. Am. Chem. Soc. 46. 232.

Conant, Kirner & Husset, J. Am. Chem. Soc. 47, 488.  
5 Goldschmidt, Chem. Ber., Vol. 22, No. 2.

<sup>9</sup> L. H. Cretcher & W. H. Pittenger, J. Am. Chem. Soc., 53, 1155 (1931).

1925.

<sup>8</sup> Walter & Lawson, U. S. Pat. 2,049,207.

<sup>10</sup> Liebermann & Lindembaum, B.

<sup>10</sup> Petrenko, Talmudt, Katzman & Gandelman, *S. phys. chem.*, 116, 313-8, 1935.

<sup>11</sup> Rodebush, U. S. Pat. 1,430,324.

<sup>12</sup> Rueggeberg, Ginsburg & Franz, Ind. & Eng

<sup>14</sup> H. A. Shonle & P. Q. Row, *J. Am. Chem. Soc.* 43, 361, 1921.

<sup>15</sup> Shriner & Fuson, The systematic identification of organic compounds.

sec. ed.  
16 Valmille, E. Villet. *J. Am. Chem. Soc.* 42, 1672, 1921.

<sup>16</sup> Volwiler & Villet, *J. Am. Chem. Soc.* 43, 1672, 1921.



# Choice of Plant Type and Site

*The proper choice of a plant site affects the type of building and the efficiency of the manufacturing operation*

**E. WARREN BOWDEN\***

A SURPRISING number of manufacturers who are alive to the efficiencies and economies of operation in new plants specifically designed to meet their requirements, are now planning for new facilities. Such a manufacturer is faced with two fundamental questions: should he build a single story or a multiple story structure and on what plant site within a designated geographical area should his new plant be situated! These two problems are to a great degree interdependent.

## REQUIREMENTS OF MANUFACTURING PROCESSES

Choice of plant type depends first and foremost on the requirements of the manufacturing operation. The efficient modern plant is built to house the manufacturing processes without permitting the physical structure to hamper or interfere with ideal layouts to any greater extent than is absolutely necessary. Low cost of manufacture is the first essential, and minor differences in cost of the several elements of the plant structure are not the governing consideration.

Some processes require an unusual height or may need to take advantage of gravity in moving materials from one operation to the next, but for the most part, the essential factors in cosmetic manufacturing are best accommodated in a one story building. Important considerations include the minimum effort in the handling of raw materials; easy access of these materials to the several elements of the manufacturing process; efficient storage and handling of packaging materials and direct access of these packaging materials to the proper stages in the manufacturing lines; storage and shipping of finished and packaged products.

## SITE OF PLANT

But another important element affecting the determination as to whether the plant will be of single story or multiple story construction, is the site on which the plant is to be built. It is obvious that a single story plant requires much more land than a multiple story plant of comparable floor space. Too frequently the fact of ownership of a piece of land is the deciding consideration in the minds of the management; especially is this true where the new plant is to become a unit in addition to elements of a

plant already located and in operation. Many instances could be given where a permanent handicap on the processes of manufacture has been imposed by the building of multiple story plant with cramped quarters on each floor, elevator bottlenecks, and the rest of such space difficulties, because the location of a site, or possibly its cost, seemed to outweigh the other factors, which over the years would directly bear on the cost of the products to be manufactured.

In such cases it is more likely than not that the land available will necessitate the construction of a multiple story building if the plant is to be located in an area where land use has already been well developed. There are conditions under which it would be better economy to dispose of both the existing plant buildings and the vacant site under consideration and to move the entire operation to a location where a site of ample size could be obtained to permit the building of not only the new unit but the rebuilding of the original units to form a complete plant structure which would be able to combine those elements needed for the production of competitive items at low cost.

## TOPOGRAPHY AND SUBSOIL CONDITIONS

There are other site considerations which influence design as between a single story and multiple story type plant. The principles of these are the nature of the topography and the subsoil conditions. In these cases it is assumed that for various reasons the site has been definitely selected. From the standpoint of topography, an unusual amount of irregularities may be present which would require such costly preliminary grading, if a large area were to be used for a single floor, that it may be decided best to develop a relatively limited ground floor area and provide for the additional floor area required on upper floors. With regard to the subsoil condition mentioned, foundation conditions may be so poor as to necessitate a relatively expensive system of timber or concrete piles with correspondingly expensive changes in the design of the first floor structure. Economies in first cost may be possible in such case if the plant is built of several stories rather than a single story.

If the foregoing conditions exist at a site there is a serious question as to whether it is suitable at all for the plant location, not because of the additional cost of construction at the location but because of the compromise in design which may result in permanently hampering the manufacturing processes.

Proper choice of plant site not only determines in large measure the practicability of building a particular type plant but it also influences the efficiency of the manufacturing operation and can provide other definite advantages. Some of the general considerations in choosing a plant site are: size of land ample for expansion and parking facilities

\* Vice-President, Walter Kidde Constructors.

ties, location relative to means of transportation, proximity of other industries which may compete in same labor market, attitude of the local government toward new industry, tax rate and assessments, stability of the community and special factors such as length of trucking hauls and advertising value of a location.

#### **SINGLE OR MULTIPLE STORIES**

While not the most important factor to be considered in choosing between a single or multiple story plant and also in selecting a plant site, the relative cost involved must not be overlooked.

Each project justifies a special study to determine the advantages cost-wise between the type buildings under consideration. However, there are indications that the one story building, if located on an ample and fairly level site where subsoil conditions permit construction of normal footings, is cheaper to construct than a multiple story building providing the same floor area.

As a matter of interest, it may be noted that a recent study made for a cosmetic plant embracing a total of 200,000 square feet of floor area indicated a considerable saving in construction cost for the one story building as compared to a two story building with 100,000 square feet on each floor. The building under consideration was a normal manufacturing plant requiring floors designed to carry live loads of 250 pounds per square foot. There were a number of items wherein the two story building was found to be more costly than a one story building. In the first place, 100,000 square feet of floor, instead of being so placed that its loads would be carried directly by the ground on which the floor slab is placed, would have to be designed to carry these loads to the columns and thence down to footing supports, and whereas a floor on the ground would cost \$.30 per sq. ft., the supported floor would cost \$1.40 per sq. ft., thus adding \$1.10 per square foot to the cost of this 100,000 sq. ft. of building which would form the second story, or adding \$110,000 to the cost of the project.

Another item to be considered was the cost of walls. Not only would the two story building have 6,000 sq. ft. of additional wall space, but each square foot of the wall would be slightly more expensive, in this case, adding \$11,000 to the cost.

In the matter of footings, the two story building would require a lesser number but because of the loads carried, each footing would be approximately three-and-one-half times as costly as those needed for the one story building, the net result being an additional cost of \$8,400.

Other important items would include three elevators, stairs and an increased number of doors, adding another \$30,700 to the cost, and finally, scaffolds and hoists required for the two story construction would account for another \$6,000.

Thus all of these items wherein the two story building was more costly than the one story building totalled \$167,000. This amount was partially offset by a few items in which the two story building was cheaper than the one story, namely, in a saving in 100,000 sq. ft. of roof area—accounting for about \$100,000 and a saving in heating installations of about \$5,000, making a total of about \$105,000 for the offsetting items.

Thus the net increase in cost of the two story building versus the one story building, of the same floor area, was

estimated to amount to \$62,000, which, in this case, represents approximately 9 per cent increase over the cost of the one story building.

The value of the additional land required for the greater floor area on the ground should not be overlooked, of course. In the case under consideration land available was ample for either design.

Many times it will be found that the cost of the plant site is but a small part of the cost directly traceable to improper choice of the site. Grading can run up to the cost of construction, as already mentioned, and there are many other elements concerning the plant site that effect construction cost.

#### **AVAILABILITY OF RAILROAD SIDINGS**

First of these elements that affect construction is the availability of railroad siding and the cost to bring it to the building site. The expense can vary all the way from two or three thousand dollars to thirty-five or forty thousand dollars.

For example, a large plant site, with its long dimension along a railroad and with a relatively shallow distance between the frontage on which the plant will face and the railroad, would call for a short, not too expensive siding.

On the other hand, a tract of land having great depth would require a relatively long siding. Exclusive of the grading expense, the owner would have to pay \$6.50 to \$7.00 per foot for just the ballast, ties and rail, and when it is realized that many modern plants need a siding at the receiving as well as at the shipping end, it can mean several thousand feet of track on a comparatively small site. It is self evident that additional expense would have to be entailed if it were necessary to obtain a right of way across adjacent property.

A second element affecting construction cost is the availability of well water or other private water supply if it is needed for the manufacturing process or for air conditioning. There are some localities where so many wells have been driven that it is not economically feasible to attempt to drive one more, and in many communities it is necessary to shoulder the expense of driving down three, four or five hundred feet to obtain an adequate water supply.

#### **PUBLIC WATER**

The third element is the proximity of public water, electric power and gas supplies. The most expensive of these is likely to be water. A manufacturer may find out



An excellent example of multiple story industrial construction

to his dismay that the cost of bringing water from the nearest water main to his site will be ten to twenty thousand dollars, and that, in addition, he has another twenty thousand dollars of expense in erecting a fifty to one hundred thousand gallon gravity water tank for the sprinkler system required by his insurance company.

#### WASTE DISPOSAL

A fourth element is the means of disposal of manufacturing wastes and other salvage. Frequently, sewage disposal can be so expensive as to rule out completely a site which otherwise might be extremely desirable. In one case a manufacturer had what he thought was a perfect site, but, after an investigation of the topography and after looking into the geology of the site, it was discovered that the ground would not handle the affluent. The site was in a clay pocket and, in order to get the sewage out, it would be necessary to syphon over a small ridge to the nearest means of disposal at a cost which made the site prohibitive.

There are examples where owners have found that the community in which they elected to build had a fairly small reservoir supplying the local system, so the insurance companies required them to provide at great expense, their own private reservoirs.

#### SUB-SOIL CONDITIONS

The final element effecting cost of construction is subsoil conditions. A good soil will carry three tons per square foot. For spread footings, it is possible to use a soil that will carry only one ton per square foot. But if the ground won't provide for the minimum, it is not good for a foundation, and piles must be used. Surface inspection alone is too risky to determine the carrying load of the soil, so it is usually wise to resort to some method of subsoil investigation.

It can't be stressed too much that a manufacturer must be careful to consider every kind of factor in making his selection, in type building and plant site. It is only by weighing every element that he will be able to decide what, in the long run, will mean the greatest profit in his business.

## Antiperspirants

Ruth R. Bien\*

In attempting to obtain data on damage caused by antiperspirants on cloth, two methods of heat-treating the cloth strips in an oven were tried in lieu of the heat-pressing method. In one, the oven was humidified, and in the other no attempt to humidify was made. Destruction results obtained by the former method were confusing, but checks were excellent by the later method. Findings were that the oven procedure permitted too much danger of false evaluation on an unknown product.

An investigation of the effect of pH on destruction was carried out using the oven method and the iron pressing method on cotton strips treated with creams. Results obtained through oven tests showed variations in pH and destructiveness, and the source of heat—ironer or oven—had a definite bearing on pH changes. Changes registered by the ironer process pointed out the importance of ac-

curate timing. This series of tests indicated that the ironing procedure should be adhered to.

In making a comparison between pH and the amount of destruction caused by perspiration alone, there seemed to be no direct bearing on the loss in tensile strength. The loss by perspiration alone was higher than had been expected. The average loss from the right arm was 16.52 per cent; from the left arm, 17.79 per cent.

In a practical use investigation, a powder which had shown significant destruction was used under the right arm, and a cream which had shown negligible destruction was used under the left arm. When the powder was effective in checking perspiration, the destructive action on the fabric dropped below that caused by perspiration alone, otherwise destruction was substantially the same as that caused by perspiration. When the cream was studied, it presented the same picture as that for the powder, except that when protection was poor, destruction over perspiration was more marked.

\* Chief Chemist, Good Housekeeping Bureau Laboratory, New York, N. Y.  
From a talk presented before The Society of Cosmetic Chemists, May 15, 1946.

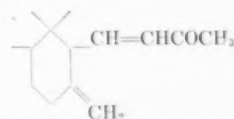
## Constitution of Natural Irone

Leopold Ruzicka and collaborators\*

Since Tiemann and Krueger in 1893 isolated the Irone of iris root essence, the problem of the constitution of this ketone has engaged the attention of numerous eminent scientists. In spite of their efforts, it had not been possible up to the present to arrive at any satisfactory solution.

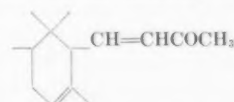
The two papers which Prof. Ruzicka, in collaboration with Firmenich & Co., successors to Chuit, Naef & Co. published in the October, 1947, *Helvetica Chimica Acta* mark a historic date in the chemistry of synthetic perfumes. These scientists, who had already distinguished themselves by the discovery of the large cycles, have in fact at last succeeded, after a long period of research commenced in 1919, in definitely establishing the constitution of Irone and in achieving its synthesis.

Natural Irone is a tetra-methylcyclohexanol derivative of the following formula:



It is distinguished from the ionones by the presence of a methyl group in position 6 and the methylenic semicyclic group. The term  $\gamma$ -irone is proposed by the discoverers for this isomerism.

These scientists have also succeeded in the synthesis of a  $\alpha$ -irone which corresponds to the following formula:



This substance possesses the exact odor of natural  $\gamma$ -irone and is olfactorily totally different from the Ionones and the methylionones.  $\alpha$ -irone existed in considerable quantities in the concrete essence of iris about 30 years ago when distillation was carried out in a strongly acid sphere.

\* Technical staff of Firmenich & Co., Succ. Chuit, Naef & Co.



# Short Adages

R. O'MATTICK

THIS is the season of many things, including Conventions, Meetings, Expositions and whatnot. Dr. Rowmaterial has been scurrying and hurrying hither and thither trying to take in everything and everybody. How he does it is something beyond our understanding but if we understood his actions, ways and means, life would be different for us.

\* \* \*

He began his rounds with a trip to Atlantic City where the 29th Annual Convention of the American Bottlers of Carbonated Beverages took place during the week of November 17th. Between meetings and going the rounds of the Exposition where bottling machinery, flavors, bottles, caps, wooden cases and nearly everything else was on view, the tireless Doctor spent quite some time visiting the bars of the Ambassador, Carolina-Crest, Claridge, Crillon, Traymore, and nearly every other hotel with a bar (what one hasn't?) in Atlantic City.

\* \* \*

"After all," said he, "while it is necessary for me to be at the Bottlers of Carbonated Beverage Convention, because many of these people use the flavors and essential oils that we sell, mix, import and export, you must remember that some flavors go into drinks stronger than carbonated beverages and it is up to us all to help the firms along who bottle gins, brandy, cordials, rum and scotch."

\* \* \*

It would not do to overlook our friends who manufacture colors because they advertise in these pages and do their best in supplying the lovely tints of red, orange and light-brown which make so many soft-drinks attractive, specially when you are very thirsty. Dr. Rowmaterial helped the color firms along with the others because when we said farewell to him at Atlantic City he was in the bar of the Traymore partaking of some deep-green colored liquid which looked like Creme-de-mint and tasted like ethyl-methyl-dibutyl-phenyl-ether, double pressed and thrice distilled.

\* \* \*

From the Convention at A. C. we went home for Thanksgiving and then to the Exposition of the Chemical Industries held in New York the first week of December. There were mixers and stirrers and citric acid and alcohol and waxes and colors again, and filter-presses and chillers and bottling machinery and gadgets, some as small as a tiny thimble and some which looked three stories high. And there was Dr. Rowmaterial holding forth with many of his old cronies who first went to the Chemical Industries Exposition in 1910. He greeted us in his usual cheerful and friendly manner, and explained that mixers and stirrers have much to do with making many perfumes, toilet-waters and lotions, as well as with beverages, both alcoholic and



"Rudolph heads our 'cake make-up' department!"

non-alcoholic and that after tasting so many soft drinks at the American Bottlers of Carbonated Beverages Convention, we had better go to the Biltmore Bar and try out a few of the other kind. We did!

\* \* \*

"What's going on around town?" he asked me as though he didn't know. From the Biltmore Bar we went to the annual meeting of the Cosmetic Chemists where another round of rounds of drinks almost made me think I was one of those high-speed stirrers we saw at the Chemical Exposition. But the serious session of the Cosmetic Chemists had a very sobering effect on the Doctor and myself. We chatted a while with some of the leading chemists in the Perfume and Cosmetic field and then walked over to the Waldorf. The good Doctor can never enter or leave a hotel without paying a visit to the bar so that down to the bar went we. As the Waldorf is one of those hotels with more than one bar, we looked in on all of them.

\* \* \*

After some more consumer acceptance of various flavors and colors, dissolved in sundry concentrations of alcohol and water (mostly alcohol), we went to the Scientific Meeting of the TGA. It was lunch-time and everyone was gathered at the Starlight Roof for lunch. A very fine crowd, too. Perfect ladies and gentlemen and very serious about their work. It was wonderful to see the Doctor change his mood and go into a long discussion with two professorial looking chemists sitting at our table, about the recent progress which has been made in developing anti-foaming agents and foaming agents. Dr. Rowmaterial is mostly interested, I gathered, in anti-foaming agents, for while the rest of us confined our consumer acceptance tests to beer he was drinking sloe-gin which did not have the least bit of bubbling effect on the surface-tension of the liquid or on himself.

\* \* \*

The conversation went on and on and became more and more technical until one of the professorial members said that it was too technical for him and he left the table. Then the other professorial gentleman got up and left and there was Dr. Rowmaterial and two other men whom I had not seen before but who resembled the Doctor so remarkably well that you would have thought they were triplets, and I.

# Synthetic Aromatics

*The synthetic perfume industry is an offspring  
of chemical research and can only progress*

**YVES-RENE NAVES, Dr. Sc.\*** with it

THE author here undertakes to show how the concept of synthesis, applied to the elaboration and reproduction of odoriferous substances, has evolved with the progress of science. He explains the mechanisms of the synthesis of odoriferous compounds and of new synthetic perfume materials. Finally, he asserts his faith in the value and in the utility of the methods employed in the modern industry of synthetic aromatics.

Up to the middle of the last century, the odoriferous materials of perfumery were drugs, natural perfumes and essential oils obtained from plants and from the organs of a few animals. From then on, and as a consequence of the great progress of science and of the chemical industry, perfumery has utilized, in ever-growing proportion, chemical substances either isolated from these raw materials by analysis or elaborated by synthesis.

These chemical substances are called synthetic perfume materials, although that term should be reserved for the products of synthesis.

## **SYNTHETIC PERFUME MATERIALS**

As all synthetic perfume materials are definite chemical substances, they can be defined by modern chemical nomenclature, however, and for a very good reason, fancy names, recalling either circumstances of elaboration or different characteristics, are retained.

All the agreeable odoriferous compounds handled by the chemist are not synthetic aromatics. They need to be sanctioned by employment in perfumery. This means that, apart from meeting the conditions proper to perfume technique, they must fulfil those of economical production which makes their use profitable. The lowering of the cost of production is often obtained as a result of progress in another industry using the same raw materials, a similar technique of manufacture, or offering important outlets.

## **SOURCES AND EVOLUTION**

On the whole, from the moment when the chemist has elaborated an odoriferous product, many efforts, from diverse fields, are necessary before the product becomes a synthetic aromatic. That is why it is interesting to

consider the sources and evolution of the synthetic perfume industry from the point of view of the chemist. The successes and failures that mark the evolution constitute as many profitable lessons for the orientation of future work. From them is learned a proven manner of selecting fruitful efforts, a tradition to be recognized and respected.

## **ODOR AND MATTER**

Three notions can be determined at the origin of our conception of synthetic perfumes. It has been recognized by analysis that odor is inseparable from matter, that it is characteristic of certain chemical components, and by generalizing successful experiments, that natural substances can be reproduced by synthesis. These notions were discernible barely a century ago, at the time when our grandfathers and great grandfathers witnessed the construction of the first railways. The history of the industry of synthetic perfume materials is therefore infinitely shorter than that of the naturals, the latter being fifty to sixty thousand years old. The ratio is somewhat similar to that existing between the brief history of aviation and the history of the wheeled vehicle.

It is only after recognizing the fact that odor, like color, taste and consistency, is not a material shape, but an inherent property of matter that one perceives that odor is inseparable from certain other attributes—the whole qualifying substances as “individual.” It is also admitted that such substances cannot lose their odor without changing their nature, i.e., without modifying their chemical composition. There follows the observation that odor is independent of the origin of the matter from which it is derived, and that it has never been possible to create substances distinguishable only by odor to the exclusion of all other qualifying differences. The intensity of the odor is thus proportionate to the quantity of substance considered. It varies a great deal from one substance to another. The odor of some substances is perceptible in very weak concentrations, such as the thousand-millionth part of a milligram per liter of air for a synthetic musk, which we recall is approximately a milliard million molecules.

It follows that any method enabling the extraction of an odoriferous chemical component from a complex mixture of odoriferous substances allows us to isolate its odor, that the mixture of the odoriferous elements, in the same

\*L. Givaudan & Cie., S.A., Vernier-Geneva

proportion as they are found in a natural substance, reproduces its complex odor. Thus, the science of the chemist guides and governs the industry of odoriferous raw materials and the reproduction of perfumes. The aim of the chemist is therefore to isolate the pure products in the cheapest way—cleared of all satellite odoriferous matter—from the most accessible raw materials and reproduce them synthetically, if he is to make them less costly.

There is little difference in starting from plants, coal-tar or the industrial derivatives of petroleum. Are not coal and oil considered as being fossilized vegetable products? But even this is out of place, as there is no distinction between the products obtained from different sources, if these products are purified with great care.

#### COMPOSITION OF CHEMICAL BODY

A chemical body is not only characterized by the proportion of the elements (carbon, hydrogen, oxygen, etc.) in its composition, but also by the structural way in which these elements are assembled. Certain compounds are known whose elementary compositions are the same, but whose structures and properties (odor among others) do not resemble each other. These are called isomers—such as either citronellol and menthol, or camphor and citral. In order to create a synthetic aromatic it is therefore necessary to know the composition and the structure. The composition is known as a whole, the structure can be known by fractions. It is possible to obtain these parts—structural groups—by the degradation of products containing them. A synthetic perfume material can be manufactured by starting with carbon, hydrogen, oxygen, etc. (total synthesis) or by starting with products containing certain parts of the structural edifice (partial synthesis). This is similar to the building of a house. As the builder determines the amount of material necessary and the architect draws up a plan, so the chemist makes the elementary analysis and draws up the structural formula. Stones are cut, bricks and tiles are shaped, doors, windows, beams and boards are made and the entirety assembled in logical order, according to the given plan. The stones, bricks, beams, boards, doors and windows can also be taken from the demolition of another house.

The choice is made according to the opportunity, materials to be disposed of, and the cost of the operation. It is obvious that before effecting a synthesis, the composition and the structure must be known; this means recognizing the fact that analysis precedes synthesis.

#### REPRODUCING NATURAL PRODUCTS

For a long time, philosophers denied the chemist the possibility of reproducing natural products by synthesis. They confounded the problem of the reproduction of chemical substances with the more subtle problem which is the formation of the organs which engender them. Their error was shown up by the successes of synthesis, evident enough a century ago to provoke the birth of a new doctrine of philosophy. There is nothing to distinguish synthetic aromatics from the natural products which have served as models, unless it be the fact that in order to make them, the chemist has had to employ powerful means and expend a great deal of energy, whereas the vegetable cell operates under moderate conditions, with wondrous flexibility and apparently without effort. This identification presupposes

that synthetic perfume materials are elaborated in a pure state.

#### PURITY CONTROL

As it is, the progress of our methods of purity control is unceasing, requiring sustained industrial advancement. The knowledge of odoriferous impurities is susceptible of bringing about the birth of new synthetic perfumes. Thus, the perfumer is slowly abandoning the use of substances of a given origin, use of which is due to the imperfect knowledge of such products.

It is deceptive to conceive of the structure of new odoriferous bodies from the structure of the usual synthetic aromatics. We know nothing certain of the odoriferous quality and its connection with the structure. The comparisons of known compounds have no explanatory value, and consequently are hardly proper to fruitful forecasts. To give them any importance is to behave like the traveller who, having become embogged, tries to save himself by hauling himself up by his own bootstraps.

Very often, the discovery of a new synthetic aromatic has been the result of luck. There are, as examples, the discovery of ionones by Tiemann and Krüger and that of "Baur's Musk" by that chemist. Such luck is however rare within the realm of research undertaken by tens of thousands of chemists.

After having completed the synthesis of an odoriferous product, our industry strives to perfect the methods of manufacture, to multiply the industrial possibilities which will enable it to give the maximum of attention to the manufacture of products whose cost price is limited by the whims of the customers and the efforts of the competitors. This means an increase in the outlets and a substantial change in the prices; the price of vanillin thus declined from \$800 per pound in 1876 to \$4 per pound in 1910.

#### SYNTHETIC AROMATICS INDUSTRY

The industry of synthetic aromatics offers us unbounded possibilities for the creation of new odoriferous products, and the only limit to its progress might well be the aptitude of the perfumer in making use of new substances. Far from being the competitor of the thousand-year-old industry of natural perfumes, it increases the outlets of that industry, transforming many natural products by ennobling them, opening new fields for their use. One cannot pretend to reproduce under advantageous conditions, nor even to know, all the constituents that go to make up the value of certain natural materials. It is even possible that that may never be attained.

The synthetic perfume industry is therefore an offspring of chemical research and can only progress with it. Today we know the paths that have been and can remain fruitful, and these give courage and ardour to the research worker. New paths will be found following recent discoveries, but it does not look as if the direction and the data of the driving impulse of our industry will be deeply modified. We must not look down upon the errors or false routes met along the road of past efforts, as the knowledge of such happenings teaches us fruitful lessons. The experience of a pilot is not only the knowledge of the channels, but also a knowledge of the reefs he has come across. To spurn these considerations would be to display a complete lack of judgment.



# The Rationalisation of Formulae

*Observations on needlessly complicated perfumery and cosmetic formulae and suggestions*

**F. V. WELLS, F.C.S.** *for putting perfume compounding on a rational basis*

**M**ANY existing formulae, by which I mean not only published formulae but also those of the private information type, are admittedly susceptible to considerable modification and improvement. In general, such improvements may be accomplished in one of two ways—i.e., by elimination or by substitution. Obviously, in the U. S. A. at the present time, the second approach is the more likely to attract the plant chemist's attention, in view of the important advances made by the American chemical industry and the subsequent commercial scale production of many important new raw materials, including additional alkalamines, polyols, fatty amides, and a whole host of specialized emulsifiers, wetting agents, synthetic aromatics and so forth.

## FUNCTION OF RAW MATERIALS

In the course of examining formulae with a view to effecting improvements by substitution, it sometimes becomes apparent, however, that the first step in the process should logically involve a close consideration of the function of each existing raw material. The analytical approach or breakdown of the formula is the surest foundation for a scientific and efficient synthesis or build-up. This simple method is, of course, the basis of an important philosophy; what is more to the point, however, at the present juncture is the fact that it still deserves to be more widely employed in the cosmetic, perfumery and pharmaceutical industries.

As an excellent example of the analytical approach, let me cite the chapter on Cold Creams in deNavarre's "Chemistry and Manufacture of Cosmetics." Here we find no abundant jumble of miscellaneous raw materials, all tipped into a formula with no thought of functional duplication. The author rightly occupies himself with a consideration of the basic structure of satisfactory cold cream formulae, commencing with the type and optimum quantity of emulsifying agent, proceeding thence to the question of balance between aqueous and oily constituents; and at last (but not till then) examining the possibilities of various modifying agents. This method of approach used by deNavarre is thus based on the examination and assessment of each individual raw material, considered in relation to the envisaged formula as a whole. One of the ablest English exponents of the same method is my good friend, W. A. Poucher, in whose laboratory I have so often seen the same principles worked out in practice.

It might be thought—this being a scientific age—that practically all formulae, or at least all successful works formulae, would be devised and built up on a similar analytical basis. Such, unfortunately, is not the case. Consulting chemists and technical editors are all too familiar with those dreadfully complicated formulae in which four or five emulsifying agents are ineffectively intended to do what one (or two, at the most) would do quite effectively. Other common faults in this category include: lack of balance between the aqueous and oil phases of emulsions; the presence of ingredients that fulfill no useful function; excessive or insufficient quantities of ingredients, whereby their particular function is unfulfilled; and—last but by no means least—the duplication of a desired function by several different raw materials, most of which are unnecessary and redundant.

These faults, which are far more common than the mere omission of a preservative or antioxidant, cover an exceptionally wide field. They are not always exposed by the splitting of an emulsion or other outward signs of deterioration. They can even be well enough disguised to get through an experienced Costing Department as well as the laboratory. They do, in fact, appear in such authoritative compilations as national pharmacopoeias and widely accepted textbooks. At all times it behooves the manufacturer and his technical men to be on guard against the faults of duplication and unnecessary complexity.

## PUBLICATION OF PERFUMERY FORMULAE

In this vein I have criticized elsewhere a particular group of pharmaceutical formulae. In the present article I propose to consider some published perfumery formulae and their suggested modification. While I do not necessarily expect readers to agree with all my conclusions and observations, I nevertheless hope that the examples quoted and method of examination outlined will encourage other readers to extend similar methods and considerations to other formulae.

\* \* \*

Generally speaking, I am not in favor of the publication of formulae for perfumes. Perfumery is a highly specialized art, best left to the expert, and by no means to be lightly undertaken as the result of acquiring a book of formulae and a handful of price lists. As a very interesting du Pont booklet puts it: "perfume making is both an art and a science, for the materials are supplied by the chem-

ist—whether he extracts them from natural sources or creates synthetic components—but the blending calls for the perfumer, who works by inspiration. It takes a great artist to create a rare perfume, for not enough is yet known of the perfumer's work to proceed by scientific formula."

It is, however, precisely because of this inspirational character of perfume compounding and the customary procedure by trial-and-error that one frequently finds 30 or 40 different constituents (many of which have the tendency to cancel one another out) present in the same formula. Unfortunately, one cannot subtract constituents of a perfume formula with the ease that one can add them. The need for correcting faults in perfume compounding frequently leads, not to logical re-examination of the formula, but to the covering up of one fault with another of opposed quality. A laminated structure of duplicated and redundant functions is thus obtained, with the usual tendency to a "dirty" or musty odor and a corresponding waste of money on aromatic materials that do not get an opportunity of giving up their full odor value.

Before proceeding to a brief and, I hope, constructive statement on the rationalization of perfume-making technique, let me first of all attempt to find faults in a couple of published formulae.

#### EAU-DE-COLOGNE SOAP PERFUMES

For this latter purpose I take two formulae for Eau-de-Cologne Soap Perfumes from the late Frank H. Sedgwick's early work "Modern Soap Perfumes" (now out of print). I do this for two reasons. Firstly, because these formulae are not just worthless compositions deliberately designed to expose faults; and secondly, because my good friend and esteemed colleague Sedgwick was himself aware of the need for revision and had in fact, prior to his untimely death, arranged with me for such re-examination, revision and laboratory testing. While my comments cannot by any means be considered as authoritative as his would have been, they nevertheless represent the same general type of approach.

The first formula is for Eau-de-Cologne for Luxury Soap. In the book it appears as follows:

200	Oil of Bergamot (Reggio)
100	Oil of Lemon
80	Orange Sweet
40	Orange Bitter
30	Mandarin
50	Lavender, Barrême
100	Petitgrain Mandarinier
50	Rosemary
25	Thyme, white
10	Menthol (or derivatives)
2	Cumin Oil
40	Linalol
100	Linalyl Acetate (et Bois de Rose)
20	Musk Ketone
3	Sauge Sclarée, Synth.
50	Geranyl Acetate
30	Methyl Naphthyl Ketone
10	Cinnamic Alcohol
30	Methyl Cinnamate
20	Opopanax Resin
10	Citral (Citron)

1000 Total

The first step towards the potential modification and simplification of such a formula of 21 items is to attempt to "get the smell on paper" by reassembling constituents so that odor similarity and particularly odor strength, as

opposed to the bulkage of diluents, will show up in the sharpest possible contrast. When this is done, the dominants and modifiers should be present in some such approximate proportion as 50 per cent and 25 per cent. On such a basis we can the more readily evaluate, eliminate and replace. The foregoing formula constituents, re-grouped in this fashion and expressed in percentages for greater convenience, may be written down as follows:

Bergamot oil	20	per cent
Lemon oil	10	
Petitgrain oil	10	
Linalyl acetate	10	
Mandarin oil	3	
Sweet orange oil	8	
Citral	1	per cent
Bitter orange oil	4	
Methyl naphthyl ketone	3	
Linalol	4	per cent
Clary sage oil	0.3	
Lavender oil	5	
Rosemary oil	5	
White thyme oil	2.5	per cent
Methyl cinnamate	3	
Cinnamic alcohol	1	
Menthol	1	
Geranyl acetate	5	
Musk ketone	2	
Opopanax resin	2	
Cumin oil	0.2	

This arrangement brings the suggested formula into better focus—and possible modifications immediately come to mind. It is unlikely, for instance, that 4 per cent of bitter orange oil and 3 per cent of mandarin oil would exercise any important modifying effect on the sweet orange oil in the nucleus. Therefore, it should be quite possible to eliminate these items and make the sweet orange oil content up to 15 per cent.

The fortifying action of 1 per cent of citral is doubtful. The presence of 1 per cent cinnamic alcohol is hardly likely to make itself felt, even throughout the whole gamut of volatilization. Clary sage oil usually requires to be present in the proportion of 2 per cent or so (though Poucher suggests 1 per cent of clary sage concrete). In any event, 0.3 per cent of clary sage oil is insufficient; it should either be increased or omitted. The small proportions of menthol and cumin oil would be quite swallowed up in the rosemary/thyme background. Moreover, the sweet effect of geranyl acetate would not be sufficiently intense in the proportion indicated.

The linalol/linalyl acetate group might also call for some simplification—these items being present in some of the oils as well as by themselves. This is a matter for opinion, followed by actual testing, but in this formula I suggest that a suitable compromise may be reached by substituting 5 per cent of the "solder" bois de rose oil for the 4 per cent linalol, omitting the lavender oil, and increasing the linalyl acetate to 15 per cent.

The functions of methyl naphthyl ketone and methyl cinnamate are more likely to be fulfilled by slightly increasing the proportions of both items. For the rest, I prefer styrax to opopanax as the resinous fixative.

The simplified, revised formula now reads as follows:

Bergamot oil	20	per cent
Sweet orange oil	15	
Lemon oil	10	
Petitgrain oil	10	
Bois de rose oil	5	

Linalyl acetate	15
Rosemary oil	5
Methyl naphthyl ketone	5
Methyl cinnamate	5
Must ketone	2
White thyme oil	3
Styrax resin	5

This shows 12 items as compared with 21. All else being equal, the fewer constituents the better. Naturally, there are innumerable variations that could be played on this theme alone; but in general it is good practice to get down to the fewest possible basic essentials and then adapt them by controlled variations. (I would add that I have not tested either of the above formulae in a milled soap base. My sole purpose is not to provide ready-made formulae but to outline a rational approach whereby such formulae may be devised, overhauled and subjected to revision.)

The Eau-de-Cologne for Bulk Soaps, also published in the volume under reference, contains 17 different raw materials. Here it is more difficult to suggest substitutes without recourse to current price lists. The constituents are as follows: lemon, petitgrain, rosemary, spike, bois de rose and Ceylon citronella oils; linalyl acetate, terpinyl acetate, methyl cinnamate, nerolin ( $\beta$ -naphthol ethyl ether), citral, lemon terpenes, lime terpenes, phellandrene, Peru balsam, benzoin resinoid and musk xylol.

This Bulk Soap formula I like very well and much depends, when attempting to revise it, upon the price and availability of the various oils and terpenes. Shorn of "trimmings," in the sense of aromatic constituents of little intrinsic odor value, a revised basic formula, presenting a good hard core for individual experimentation, might however prove to be something on the following lines:

*Base:* Petitgrain, bois de rose and lemon oils.  
*Modifiers:* rosemary and citronella oils, terpineol, nerolin, methyl cinnamate. *Fixatives:* nitro-musk, benzoin, Peru balsam.

Terpenes, residues and other diluents can be added to such a nucleus as and when required. Artificial and synthetics can also be used in replacement.

\* \* \*

Much of the foregoing commentary has been of an analytic, destructive character. Let me now conclude in a rather more constructive vein. It is customary, in books of formulae, to find many lists of materials and "basic formulae" that are comprehensive rather than selective. The authors frequently appear to cram in everything that they know (and a good deal that they don't know) in an attempt at omniscience. No effort is made to be selective, or to act as a guide to the reader in this complicated maze of information. Very seldom are we treated to a discussion of the "know how," based on first principles, as in deNavarre's chapter on Cold Creams. Yet a proper knowledge of the rationale of compounding is worth any amount of suggested, untried formulae.

Perfume compounding being one of the most difficult and specialized branches of compounding, will admirably serve to demonstrate that such a rational approach can in fact be made. Beginners are usually confused, rather than enlightened, by textbook references to Bases, Blenders, Modifiers, Florales, Sweeteners, Fixatives, etc.—particularly as one and the same aromatic material can easily perform two or more of these functions in a specific formula. Thus one of the largest American supply houses refers quite rightly, in an interesting essay on a Perfume

and its Sources, to sandalwood, vetiver, styrax and patchouli as "oriental odors" and to musk ambrette as a "fixative." Though correct as far as it goes, this kind of statement does not give the complete picture, because all these oriental odors (especially styrax) are also fixatives.

#### COMPOUNDING PERFUMES

What, then, is the best approach to this particular problem of compounding? In my opinion it consists—as with cosmetic and other formulae—of beginning with the fewest possible number of materials and thereafter handling only one variable quantity, if possible, at a time. One of Britain's leading perfumers (I leave readers to guess his name) first impressed on me the value of this simple approach. Here it is in outline:

The perfumer first takes two materials, each of which may be either a natural product or a synthetic. Such materials should be of a distinctive character, and not merely diluents. They are used to form the nucleus of the perfume, but must first be blended to give a balanced base, that is essentially a harmonious composition. To achieve this blend, the two products (styled A and B) are experimentally mixed in the following proportions:

A	B
1	9
2	8
3	7
4	6
5	5
6	4
7	3
8	2
9	1

The nine samples are left aside for a few days, and on returning to them one will usually be found outstandingly satisfactory, as compared with the rest. This optimum or "balanced" blend is then taken as the nucleus of subsequent experiments. Examples of raw materials suitable for utilizing as a base are, of course, fairly numerous—but we may here cite coumarin + oakmoss; terpineol + anisic aldehyde; heliotropin + isoeugenol; patchouli + phenyl-acetaldehyde; camomile + sandalwood; boronia absolute + labdanum. Cvetlumen aldehyde, vetiver, hydroxycitronellal, methyl octin or heptin carbonate, nerol, amyl salicylate, styrallyl acetate, cuminaldehyde, amyl benzyl oxide, and some of the newer acetals, ketals, lactones and carbinols—are all deserving of consideration in this respect. As also, of course, is a wide range of excellent proprietary bases.

The perfumer then proceeds to add varying proportions of another product—so arriving at a similar balance. And so on. As far as possible, each step should involve only one variable factor.

Whereas a subtle handkerchief perfume may call for the balanced inclusion of 30 or more raw materials and bases, for most purposes the number of aromatic constituents may be considerably less. Thus my good friend E. S. Maurer, a practicing perfumer of considerable experience, writes: "For a long time now I have found three primaries to give the dominant note; three secondaries to modify and support and the other seventh as the appropriate fixative—which octave serves most practical purposes to which I apply these compositions."

Working on the lines indicated above, the reader may proceed with his own experiments, based on such recom-



mendations as those of Dr. A. T. Frascati (THE AMERICAN PERFUMER, April 1937) or of an anonymous writer in the *Givaudanian* (June 1940). The latter suggests that the following compositions may serve to act as a starting point "to bring out the concept of odor harmony":

Constituents	Parts	Odor Note
Iris resinoid	20%	Oriental type
Isoeugenol	30%	
Heliotropin	50%	
Hydroxycitronellal	65%	Cyclamen type
Cyclamen aldehyde	20%	
Methyl octin carbonate	15%	
Amyl cinnamic aldehyde	40%	Champaca type
Phenyl acetic aldehyde	20%	
Nerol	25%	
Cananga oil	15%	
Oakmoss resinoid	20%	Chypre type
Labdanum resinoid	25%	
Citronellol	35%	
Amyl salicylate	20%	

Dr. Frascati suggests the following columns of "odor notes" from which the perfumer may devise typical Outdoor Perfumes:

Dominant	Sub-Dominant	Top and Base
Fern	Lilac	Foliage
Lavender	Jasmin	Earth
Hay	Rose	Moss
Clover	Narcissus	Wood
Hawthorn	Carnation	Smoke
Heather	Orange Blossom	Leather

These items are, of course, interchangeable. While the importance of flower absolutes, essential oils, resins and balsams, isolates and synthetics cannot be overlooked, it is particularly essential that due note should be taken of some of the prefabricated bases (e.g., proprietary Russian Leather, Harris Tweed, Exotic Wood and similar bases).

As Dr. Frascati himself adds, "The most difficult part of the process still remains to the perfumer, namely the blending of all these suggestions into a new and desirable odor."

## Technical Abstracts from Scientific Literature

**Orientation of research in the use of fats.** I. Cation-Active Soaps. Jean Ripert (*Lab. Soc. Thibaud-Gibbs, La Plaine Saint Denis*). *Corps gras savons* 1, 39-42 (1943). Following a report on the consumption of fats in France, the constitution and properties of active-cation soaps (aliphatic, cyclic, heterocyclic, and other derivatives of fat acids) are briefly reviewed, and the use of these compounds in the textile and medicinal fields is discussed. II. Non-ionizing active substances. Ibid. 143-5. The chemistry and application of various compounds (i.e., phosphatides, saponins, condensation products of ethylene oxide with amino acids, fat acids, and alcohols, etc., now used as detergents or detergent acids are discussed. (Through *The J. of the Amer. Oil Chem. Society*, 24, 64, 1947.)

**Ascorbyl monoesters.** U. S. 2,350,435. Stable esters suitable for use as antioxidants (some of them in edible fats and oils) are formed by the reaction of ascorbic acid in a vehicle of strong  $H_2SO_4$  (suitably standing overnight at room temperature) with another esterifying acid. Details are given of esterification reactions with lauric, myristic, palmitic, stearic, caproic and 9,10-dihydroxystearic acids.

**Gel formation.** S. P. Adarkar and G. S. Hattiangdi. *J. Univ. Bombay* 14A, 23-6. Formation of gels by solutions of sodium palmitate and potassium stearate were studied, the former at concentrations ranging from 0.055 to 0.065 gram, and the latter from 0.010 to 0.020 gram, per 10 cc. of pinene. The initial temperature was 140 deg. C., and the final temperature approximately 50 deg. C. reached in 8 minutes. The lower the concentration the faster the cooling. The curves for the two soaps were very similar and exhibited pauses at the points of setting. The temperature difference curves showed sharp maximum at the setting points which were between 95 deg. and 105 deg. C. The heat of gelation increased with concentration. (Through *Soap*, 22, 71, 1946.)

**Bactericidal properties of some surface-active agents.** W. S. Mueller, E. Bennett, and J. E. Fuller (Massachusetts Agr. exper. Sta.). *J. Dairy Sci.* 29, 751-60 (1946). Of the 42 surface-active agents investigated, only the quaternary ammonium and phosphonium compounds had sufficient germicidal properties and stability for a good sterilizing agent for dairy use. The quaternary ammonium compounds go into solution readily, are practically non-corrosive to metals, odorless, tasteless, and colorless, all of which are desirable properties. The phosphonium compounds also are non-corrosive to metal and have no serious objectionable odor or taste, but they do not go into solution readily and produce cloudy solutions, which are undesirable properties. (Through *J. of the Amer. Oil Chem. Society*, 24, 64, 1947.)

**Critical concentrations for micelle formation in mixtures of anionic soaps.** M. L. Corrin and Wm. D. Harkins (Univ. of Chicago). *J. Colloid Sci.* 1, 469-72 (1946); cf. *C. A.* 40, 2715; 3341. It is suggested that the micellar structure in solutions containing a mixture of soaps is detd. by the relative tendencies of the constituents to aggregate. Data illustrating the possible types of behavior were obtained by measuring, by means of the pinacyanol chloride technique (*C. A.* 40, 6937), the crit. concn. for micelle formation of several mixts. If the tendency to aggregate is quite dissimilar, the soap with lower aggregation value tends to act as a salt toward the other soap. K caprate acts in this way toward K laurate in solns. containing more than 50 mol. per cent laurate, and K laurate acts as a salt toward Na dodecyl sulfate in solns. containing more than 20 mol. per cent of the sulfate. Outside of these concn. ranges, the behavior cannot be described in terms of a salt effect. In mixts. of 2 soaps having approx. the same tendency to aggregate (e.g., K myristate and Na dodecyl sulfate), the 2 soaps exert no effect on each other. (Through *C. A.*, 41, 900, 1947.)



*Excise tax on perfumes and cosmetics will influence holiday sales . . . Promotion of cleansing*  
**JEAN MOWAT** *creams planned for New Year*

## COSMETIC TRENDS IN THE MID-WEST

**C**OSMETIC and perfume buyers are alerted to the danger that lies ahead in the high cost of living as it reacts upon the department which has to add a 20 per cent excise tax to the goods sold.

In order to maintain the present sale, a number of leading stores changed their usual purchasing program and have given more stress to the display and sale of popular priced merchandise than the former higher priced goods. In this way unit sales have been retained in excellent comparison with 1946. It is expected that this form of merchandising will enable 1948 to be entered with inventories in good condition, fairly well balanced, and will indicate if trends for Spring buying were proved in the December selling.

Christmas sales in cosmetics is the largest type of sales recorded, with Easter a good second and other substantial sales made for Mother's and Father's Day, and graduation. Today the excise tax is the paramount theme in every department. Orders are given and when the average man realizes that to his \$50 purchase must be added taxes that amount to \$11.20 (excise 20 per cent and state 2 per cent) he cancels it and goes to another counter to buy tax free items.

### THE NEW LOOK IS YOUTH

To keep up with the apparel section in the New Look the average retailer and smart shop has given to its women the new look in cosmetics. This has included smart perfume packages, colognes packed in four fragrances to the box, or in two, at prices that are at \$5 for the former and \$2.50 for the smaller size. This was a leader last month at Scruggs Vandervoort Barney, St. Louis.

The demand for smartness in packages by the average customer has not been a surprise to the buyers but it is one which has the trade on the ropes because with materials and workers in the present mood they are not being produced. If a man purchases a \$50 bottle of perfume he wants a box for it that looks as expensive as the gift.

Youth is the theme of all displays, presentations and suggestions at The Emporium, St. Paul, throughout all its sections—perfumes as well as cosmetics. How to renew a tired face quickly and how to keep fresh through a strenuous day are all given a spot in the story of youth. Famous-Barr, St. Louis, follow much the same appeal-theme in current advertising and it is a device which is reported as aiding to a great extent in overcoming the excise tax resistance. Wasson's, Indianapolis, feature the idea under the theme of "a revolution in make-up." Backing up the Wasson advertising is a beauty column that relates in detail the new fashion note in lipsticks and that this season one must be a lady and have her own lips accented! Much the same motif is offered by Rothschild's of Kansas City.

Chicago stores as a whole are having a demonstrator give this new look a position of importance. The Fair has a woman at each of its several counters to aid one in making the right selection of tone and also show how to apply it.

This is an idea the smart shops capitalize upon and also give much attention to the right shade. Few of these shops stop with the sale of one lipstick for with different color apparel a change is essential. The important point is to have a woman understand this and know when to use which stick.

### WINTER BODY FRESHNESS

During the hot weather every store gives much stress to the importance of being freshly-sweet. But in a dozen stores there were no presentations, no cards suggesting the necessity of this service to one's self to guarantee freshness and certainly there is no advertising. Even some of the radio time-signals that have been producing substantial sales have been taken off and so the average man and the woman, especially the young teen-agers, are ignoring this important body freshness.

With people being cramped in buses and street cars, subways and offices that stale odor can be irritating and certainly not conducive to friendliness. Even buyers admit that something ought to be done about it but consider the manufacturer is not giving them support. This is one item on which there is much howl over a tax. It is as essential to cramped living as is soap and water. Another complaint is that a 5-pound bag of bath salts, merely water softeners, are also given a 20 per cent luxury tax when in the Middle West this is a necessity.

These are points which buyers insist should be corrected, just as handbags for women are a necessity but are also considered a luxury. There ought to be a point at which the luxury bag really begins.

### DEPILATORIES HAVE A PLACE IN TODAY'S SALE

It may be that depilatories are located in the wrong section of the store. If you, as a manufacturer or buyer, ever notice the hairy legs of women wearing 15-denier stockings, then you have a perfect picture of the New Look Gone Wrong. Depilatories are also necessary for the perfect use of de-odorants, and equally so for the smart new

look. Certainly some smart manufacturer ought to see this point. It is no longer a matter of injuring some one's feeling, it is a matter of smartness in dress.

The use of this preparation in its many forms, any one of which is good, plus a deodorant, is a matter of education for 1948.

#### **JANUARY PROMOTIONS**

The long mild weather that didn't have its back broken until November delayed the usual soothing skin lotions that normally get initial reorders in that month. But January promotions will stress face and hand lotions for the blustery winds and cold days.

Under-foundation lotions are especially important for skins that are inclined to be dry, as they are in the Middle West. Powder creams to be used *under* the powder give a protection that will save chapping, and create added sales. But now that Summer has passed a dozen stores have not mentioned this under-tone as important for cold weather, yet it means an extra sale.

#### **STRESS CLEANSING CREAMS**

Whether you dine at the Stork Club, or Camellia House, you will find women applying powder to their noses, cheeks and chin after each meal, and any time in-between. The result is layer after layer that is worked into the skin, on top of the accumulation of dust that is always blowing about in the air.

One of the larger makers of typewriter ribbons has a double use for his box—after the ribbon is removed it becomes a powder box. The idea has proved very popular and the sales of this particular ribbon have risen for a new box and a new ribbon went together and each lasted about the same length of time.

The average buyer does not have time to do all her book-work, or oversee it, and yet never does she insist that women in her department have a fresh look at all times—yet the girls do manage it. But that is a secret not always communicated to their customers. The early morning make-up is removed and the skin well cleansed and then a new make-up applied. This very act is one of the most refreshing things a woman can do during a busy day, or at the end of a day.

Here is a point for national advertising and if the link-up with local stores can be made, some three times the amount of present cleansing cream sales will result. This is one of the important and basic fundamentals for a good complexion and with this used as the lever for the new look, plus a cream powder foundation, the result will astonish the woman as well as her friends, for she will look years younger. And there is no woman who will not accept that as a fact and put it to work. This is in effect the new look, applied to one's complexion to keep it fresh and young looking.

This idea will surpass the romantic line in any ad and far exceed the sales of "propose now" perfumes, if it is presented. For 1948 every maker of a cleansing cream ought to revise his prices downward and watch the rise in units. The average woman uses a cleansing cream as sparingly as the directions on a tissue cream call for, whereas she ought to literally bathe her face in it. These unit sales can be promoted to new highs and the dollar volume remain as it is today. Pound jars are less expensive to pack than ounces and can be sold without any more effort, as-

sert the clerks behind the counters, if, these are in popular-priced brackets.

#### **HOLLY AND MISTLETOE vs. PALM BEACH**

Much of the holiday sales will have a double purpose. They will be a fine gift, as well as making a package which can go traveling. Many business firms are willing to let workers break their month vacations into two sections and this year the largest exodus to southern climes is expected by rail, ship and airlines. Travel is again free. For this, cosmetic kits are essential, but they must be light in weight and light containers to give this.

During last month a travel kit for cosmetics, empty, sold 500 in one day at \$2.99 and this was the amount planned for the week. It was a good buy and after purchasing the kit women ordered items to fill it. The cosmetic department reaped a substantial business.

#### **PERFUMES FOR TRAVEL AND GIFTING**

This next month normal business will be slow, assert buyers, while inventories are adjusted. Sales will assist in this work. But dram perfumes are expected to reach a new high in December which will carry over into January and far along to the Easter season, March 28. The idea of putting four dram bottles into a neat box is not new but it is striking a new note in sales at many stores where such counters have been installed. These are known as "mood fragrances."

Equally as important, from the point of sales, is the combining of several colognes in different fragrances to give a new filip to a jaded day which Spring can bring. For travel specially sealed bottles are still a need and few makers are offering them. There is a resulting loss of fragrance when these bottles are carried on planes, for the alcohol evaporates and takes the odor with it.

#### **MEN'S TOILETRIES**

Today men's toiletries, still being purchased almost exclusively by women, have simmered down to what the men want: Astringent and a good talc. These items packaged as a unit or in two separate ones have enjoyed an exceptionally good reception in the popular priced stores. In the style stores it is a young man's gift item, for the older man prefers to select his own.

Holiday sales are expected to indicate what lines may be dropped during 1948 for many of these will no longer be carried. Some stores, that last Christmas carried a dozen, are down to the two or three which have proved good sellers.

#### **WHAT'S NEW IN COSMETICS?**

What's new in cosmetics? This was the theme every buyer in the Middle West wanted to know and most of them kept some budget in reserve for the last word to be offered in December as a sales' test for 1948. Where the item looked good it was promoted for immediate selling.

Cosmetic kits were active in this classification from \$12.50 to \$25 for volume sales, with some being recorded at \$100, completely outfitted. For the junior miss and master there were kits at \$2.50 to \$10 that delighted the hearts of these youngsters and are giving them education in skin care. Soaps were also included, but so were lip-sticks of colored pomades for the young miss and hand lotions for master.

# Electrons as a Cause of Odor

RUSSELL C. ERB

INVESTIGATIONS in olfactology is not a field of easy success. Much of this lack of success is due to a vagueness of describing and classifying a known smell, to the difficulty of olfactometry or measurement of the intensity and degree of smell, to the inability to apply a "yard stick" to the similarities and differences of smell and ultimately to the allusiveness as to what odor actually is.

Other sensory responses have been cataloged into special sciences, with a definite knowledge as to the causes and the mathematical methods of measurements. In the science of light and vision, we know the cause of the various light and color sensations, can duplicate them, control them, measure them. The same thing is true of the science of sound and hearing.

## STIMULUS OF AN ODOR

The stimulus of any specific odor is inherent in a specific particle of matter, small enough to be capable of existing in a vapor or gaseous state. The term odorophore is being applied to any particle of matter which is able to produce the characteristic odor response. Odorophores are widely distributed but only those odorophores that, because of volatility or ease of vaporization, reach that nasal area which is restricted and specialized for the reception of olfactory stimuli, are odorophores in fact.

A true odorophore, as a small particle of matter, must exhibit a readiness for solubility in the aqueous and lipid substance of the sensory end organ of the olfactory nerve. In order to stimulate the olfactory cells, the odorophore must be transported upwards from the respiratory passages either by diffusion or by eddy currents, the latter constituting the principal factor in the excitation of the olfactory endings. The olfactory hairs are immersed in a film of liquid secreted by Bowman's glands. The odorophore must go into solution in this liquid before it comes into actual contact with the sensory structure of olfaction. More than this, the odorophore must also go into solution in the fluid substance that comprises the olfactory hairs themselves. This olfactory hair substance, since it stains readily with osmic acid, is undoubtedly a lipid or lipoid or a mixture of lipid material. A true odorophore, therefore, in order to be in a position to excite the olfactory end organ, must penetrate, by means of solubility, the aqueous-rich film of the olfactory hairs as well as the fatty matter of the hairs themselves.

After the odorophore has entered the aqueous-lipoid base of the olfactory nerve tissue, it becomes oxidized or reduced by the oxidation-reduction systems of the nerve endings. The enzyme systems and other tissue components which are involved in the cleavage and oxidation-reduction reactions of nerve tissue are, in the main, similar to those of other tissues. Over twenty enzymes have been isolated from cerebral tissue.

Substances that play a part in oxidation-reduction car-

rier systems include indophenol oxidase (cytochrome), dehydrogenases, flavins, lactoflavins (vitamin B<sub>2</sub>), thiamin (vitamin B<sub>1</sub>), ascorbic acid (vitamin C), glutathione, etc.

The pairs of substances which comprise these reversible oxidation-reduction systems form a series through which electrons are transferred from the odorophore at one end of the series to molecular oxygen at the other end. The tendency of an electron to pass from the oxidized to the reduced form in an oxidation-reduction pair is often called the oxidation-reduction potential.

An electronegative element such as oxygen has a tendency to take up electrons when ionized, so that a system which fixes oxygen increases, potentially at least, the electronic activity. Conversely, hydrogen is electropositive in all of its reactions and combinations, losing an electron in the act of combining with other elements. Carbon possesses the power to either lose or take up electrons with equal facility and thus it may become either negative or positive in its behavior.

Electronic activity of a system is increased by the removal (partial or complete) of electrons from the odorophore undergoing oxidation. The specific enzymes known as dehydrogenases greatly accelerates this electron activity. These dehydrogenases undoubtedly operate in conjunction with the oxidation-reduction systems, mentioned above, which transport the hydrogen from the odorophore in such a way as to make possible its union with oxygen.

## "HOT" ODOR

Odor, we maintain, is the result of this electronic potential; differences in potential producing differences in odor. Odor is a measure of the speed and concentration of the electronic activity of an oxidation-reduction reaction of the odorophore. That electrons can stimulate the olfactory end organs is apparent by the common occurrence of smelling hot objects. An electric iron becomes over-heated and can be smelled in another part of the building; steam or hot water pipes when hot emit a characteristic "hot odor"; hot metals generally can be detected by smell. When metals are heated electrons are thrown off. When these slow moving electrons are sniffed along the olfactory sensory site in the nose, they become odorophores.

Many substances, such as the strong oxidizing agents and irritants may affect the fifth nerve as well causing confusing sensory responses not actually classified as odor or at best, an olfactism.

Basically then, the odorophore must first go into solution in the nerve aqueous-lipoid tissue itself (the more complete the solution, the more efficient the enzymic activity). Then the dissolved odorophore is (to a degree) oxidized or reduced by the oxidation-reduction system of enzymes and in this oxidation-reduction electronic activity is established. This electronic activity, concentrated at the olfactory nerve ending (olfactory cells are in reality bipolar nerve cells) sets up a nerve impulse to the brain, establishing the sensation of odor.

# Packaging

## Portfolio



RICHARD HUDNUT

RICHARD HUDNUT: Meadowsweet Yanky Clover gift set contains cologne, dusting powder and soap. The country fresh packaging is deep green and white with a clover motif in magenta.

HOUSE OF GOURIELLI: "Five O'Clock" is a new French fragrance by Gourielli, packaged in a miniature cocktail shaker of sparkling clear heavyweight glass lettered in solid gold, and topped by a gold metal friction cap.

HOUSE OF GOURIELLI



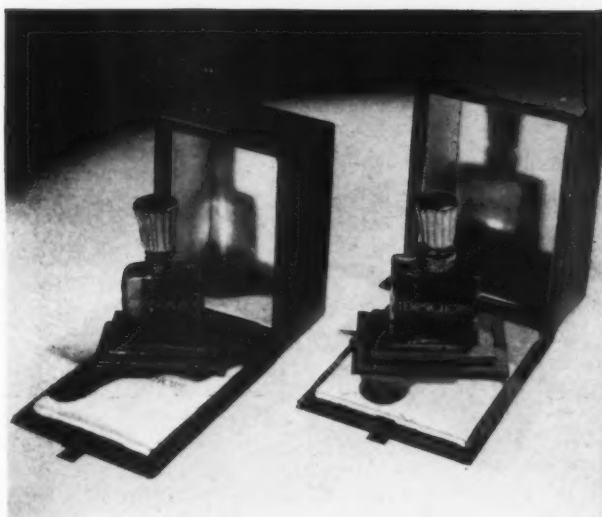
PRINCE MATCHABELLI: "New Look" is Prince Matchabelli's new foundation cream which comes in five shades. The handsome jar is aqua banded with gold and crown-embazoned.

PRINCE MATCHABELLI





TUSSY: Tussy's "Terpsichore" perfume is packaged in the finest leather case of gay, bright red, lined with cream colored satin. A removable red leather pedestal holds the flask-like gold-lettered crystal bottle, topped by a gold-plated plastic stopper, wrapped in gold cord.



TUSSY

DAGGETT & RAMSDELL: The Debutante trio, a Daggett & Ramsdell gift set, holds full-size bottles of toilet water, bubble bath, and hand lotion. The three matching, pink-ribboned bottles stand upright in a base, whose soft blue cover is sprinkled with pastel buds for contrast.

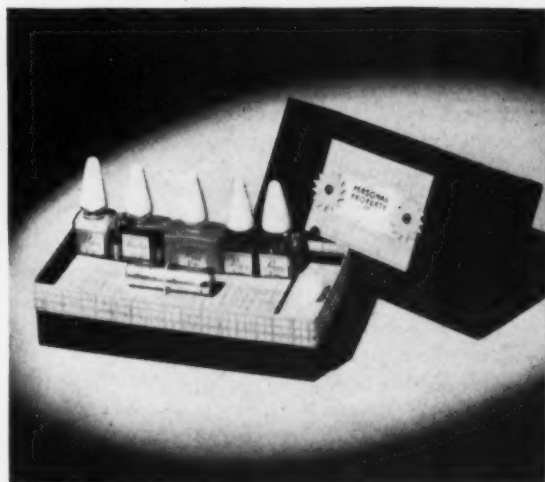


DAGGETT & RAMSDELL

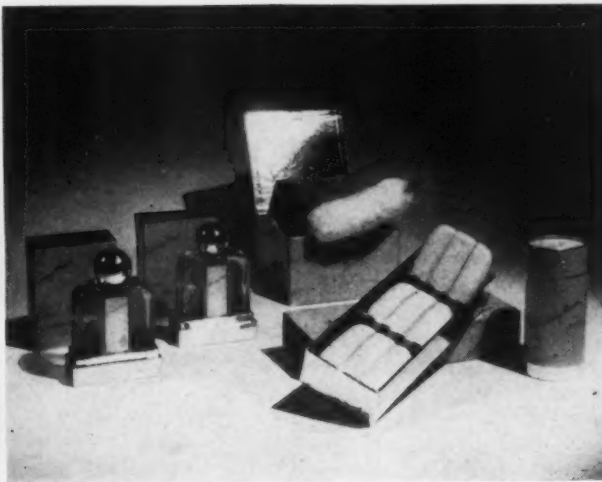
PEGGY SAGE: Peggy Sage equipped her "Personal Property Box" with all the requisites for a complete manicure, and added a lipstick to match the polish shade. The box is covered with black shiny paper, and attractively trimmed in pink and white plaid paper. A name plate is added to the top of the box.

JACQUELINE COCHRAN: Jacqueline Cochran presents five Shining Hour bath aids. The toilet water, cologne, dusting powder, talcum and soap are packaged in rich blue and gold foil, with a fuchsia accent.

PEGGY SAGE



JACQUELINE COCHRAN



## Book Reviews

**THE HISTORY OF COSMETICS IN AMERICA** by Gilbert Vail, 6 x 9 inches. Toilet Goods Association, Inc., 1947, price \$3.00.

The most important thing about any book is "who is the author." For in that answer lies the very basis of a book. So it is with Gilbert Vail. Who is he? No one knows.

That a need for such a book exists is evident to anyone interested in the background of our industry, since most historical data on cosmetics gives either European or Oriental contributions. Those who have studied our industry and its development in the United States in particular, know that its origins are deep rooted, but that active growth did not take place until the turn of the century, some forty or fifty years ago.

In the foreword it states that "the current book is in no sense a recital of detailed progress." To be a history at all (the title says it is) it must be a fairly complete chronology or it fails to live up to its title.

Mr. Vail does do a pioneer's job in getting some history together. The history recital prior to 1860 is more complete than after this period.

One cannot underestimate the influence of the various foreign branches of perfumery houses in America on the growth of the industry, particularly French companies. The House of Houbigant is an example. Nor should one overlook the effect on the industry, of the raw material suppliers who were largely foreign in the days prior to 1900. To get this background, the author should have consulted more than the few suppliers whose efforts are acknowledged.

While it is true that there were probably more than a dozen companies 100 years ago supplying cosmetics as they are known today, yet the number which came into existence since 1900 and have gained national and international renown deserve some comment. To do this of course would make the book many times its present size. But think of the fascinating reading one could get from the origins of Elizabeth Arden, Helena Rubinstein, Ponds, Lady Esther, Max Factor and the Westmores, Carl Weeks and Armand, Northam Warren and the Revsons (of Revlon), Dr. Sayman (soap fame), the Elmo and Ogilvie Sisters, Richard Hudnut and the Pfeiffers, the Wrisleys, the J. B. Williams Co., Packers (Tar Soap), United Drug Co. cosmetic department, Fred Ingram, Frederick Stearns (Day Dream line), Furst McNess & Watkins, Mark Allen, Sem-Pray, Fairystone, Marinello and these are just a few. That would be reading and that would be history, too. The author would also have learned a lot more of the recent history of cosmetics if he talked to the older drug companies, some of which pioneered their own perfumes, toilet waters and cosmetics while others private labelled them. For the drug house was the natural place to turn for private labelled cosmetics.

According to this reviewer's information, the reference on page 30 regarding the first American glass company, may not be correct. The company was formed by two Englishmen named Norton and Candys. They brought with them 6 Italian glass blowers and their families, arriving at Jamestown, Virginia, to make colored glass beads in a furnace originally presumed to be built by John Smith

in 1608. But it was not until 1622 that glass was produced by them and then only as beads, for the purpose of trading with the Indians.

In fact, more credit must go to the Toilet Goods Association for undertaking the project, than to Mr. Vail for working it out. To do the subject the justice required, is a Herculean task. The 25,000 words he has written is hardly more than an essay. Yet, the financial return from the sale of the book will only give the T. G. A. directors a bad case of jitters. So, perhaps the real problem is the subject itself.

Mr. Vail's efforts stimulates thinking and if it does nothing more than to bring forth criticism, it has served its purpose well. For if all the criticism is added up, the T. G. A. and the author will have some help in making subsequent revisions more complete. That is the grief that every first edition goes through, especially on subjects of historical significance. So, Mr. Vail, take time out at the next T. G. A. Convention and talk to the old timers like Carl Weeks, L. S. Levy, C. M. Baker, Fred Ingram, The Misses Arden and Rubinstein. Get Steve Mayham on the side and wring him dry of information (and he can tell you many a tale about this business); then you will have more meat to put in your sandwich.

Finally, the bibliography is regularly punctured by omissions. Redgrove is mentioned, but not Poucher; Schmidt but not Winter; Chilson appears to be the only American mentioned though there are others.

These are the failings as seen by a comparative new member of the industry.

On the credit side is the fascinating reading of the early use of facial paints by American Indians. Quotations and other factual data on their introduction and use after each war era are interesting indeed. All this was a mammoth job. The industry owes Mr. Vail a great debt for doing it, and to the T. G. A. for fostering it. America was not built in a year, nor will the history of this industry be as quickly compiled.—M. G. de N.

**VAN NOSTRAND'S SCIENTIFIC ENCYCLOPEDIA.** Second Edition. 1600 pages, illustrated, 7 x 10 inches. D. van Nostrand Co., Inc., 1947, price \$12.00.

This second edition of a valuable original publication is almost 400 pages larger, with 10 per cent more entries. The contributing editors have been increased from 10 to 22 and the consulting editors from 11 to 18.

All this is evident in the text which covers 20 main branches of science. A number of new subjects are included, such as electronics, radio photography and statistics among others. Many new data as on jet propulsion are given in detail.

This is one of the most valuable scientific reference books a library can own. It bridges the gap between things a person reads in scientific journals and in standard reference works. It boils down much information, yet the presentation is correct and carefully planned.

Chemistry and chemicals are given considerable space. A good deal of the data is hard to find in ordinary books, yet it can be found here in condensed and valuable form.

Whether your library is large or small, this encyclopedia will find much use. It will become the first ready reference you will turn to for a quick briefing on any scientific subject. You will find it reliable and complete.—M.G.deN.

# FLAVORS

## Root Beer Flavorings

*One of the most important flavors  
for non-acid, specialty type carbon-  
ated beverages is root beer flavor*

**MORRIS B. JACOBS, Ph.D.**

**N**ONALCOHOLIC beverages were first prepared by Joseph Priestley in 1767 in England as a result of his work on fixed air or carbon dioxide as it is now known. This was soon utilized in America by Dr. Philip Physick, who, with the help of Townsend Speakman, a druggist, made carbonated beverages in 1785. It is probably likely that the beverage, root beer, was prepared shortly thereafter for root beer certainly has been known for over a century.

For instance, mention is made of this beverage by Nathaniel Hawthorne in his book, "The House of Seven Gables," which was published in 1851: "No less than five persons, during the forenoon, inquired for ginger beer or root beer or any kind of a similar beverage and, obtaining nothing of the kind, went off in exceedingly bad humor."

Actually the root beer of yesteryear was different from the product we call root beer, at present. Before 1877, it was customary for the consumer to purchase a ground mixture of roots, herbs, and bark and steep the mixture in boiling water to prepare an extract. Sugar and yeast were added to the extract and the mixture was allowed to ferment with the subsequent production of alcohol and carbon dioxide to make an alcoholic beverage. About 1880, one processor prepared the extract himself and sold it for use

by bottlers and in places where soda was dispensed.

About 1905, a prepared sirup containing the root, herb, and bark extract with additional flavoring ingredients to which only carbonated water had to be added to make a complete beverage was furnished by another processor. This preparation, however, contained no alcohol and thus this type of root beer was in reality a soft drink.

### **FLAVORING COMPONENTS**

Root beer flavoring components may be placed into two principal categories, namely, (1) botanical components and (2) essential oil components. In order to discuss the preparation of a root beer flavor in a subsequent article, the characteristics of the more important ingredients will be described so that an evaluation of the role each plays can be obtained.

### **BOTANICAL COMPONENTS**

The botanical components consist of sarsaparilla, which is generally the most important ingredient and licorice, wintergreen, sassafras, hops, ginger, coriander, dandelion root, wild cherry bark, althea, angelica, allspice, and yellow dock which are used in lesser quantities as modifiers and blenders. The pungent, acrid, bitter, and aromatic flavors of these ingredients are combined with the characteristic flavor of sarsaparilla to give the principal flavor combination we know as root beer.

\* Adjunct Professor of Chemical Engineering, Polytechnic Institute of Brooklyn.



**Sarsaparilla.**—The dried root of *Smilax aristolochifolia* Miller (*Smilax medica* Chamisso et Schectendahl) is known in commerce as Mexican, Vera Cruz, Tampico, or Gray Sarsaparilla. The term, sarsaparilla, also covers *Smilax officinalis* Kunth, commercial Hondurian sarsaparilla, *Smilax Regelii* K., commercial Central American or Jamaica sarsaparilla, *Smilax ornata* Lenaire, and various undetermined species of *Smilax* (fam. *Lilaceae*). This root has a faint, nondescriptive odor and an acrid, mucilaginous, slightly sweetish taste. If the commercial product does not have a distinct acrid taste, the material is probably inert. The principal active components of sarsaparilla are three glycoside saponins known as smilasaponin, sarsasaponin and parillin. Their structure and chemistry have not been completely elucidated.

**Licorice Root.**—Glycyrrhiza or licorice root is the dried rhizome and roots of *Glycyrrhiza glabra* Linné var. *typica* Regel et Herder, which is known commercially as Spanish licorice and of Russian licorice, *Glycyrrhiza glabra* Linné var. *glandulifera* Waldstein et Kitaibel. There are other varieties of *Glycyrrhiza glabra* (fam. *Leguminosae*) used. Licorice root contains about 10 per cent of a characteristic substance glycyrrhizin, the chemical formula of which is not known and which is probably present in the form of the potassium and calcium salts of glycyrrhizic acid. This root also contains about 5 to 10 per cent of glucose and sucrose, a brown acrid resin, asparagin, starch, and lignin. Glycyrrhizin probably is a saponin and there are probably other saponins present. Because glycyrrhizic acid is only slightly soluble in water, its water solution has only a faint sweet taste. Its salts are generally much more soluble and are said to be much sweeter than sucrose.

**Wintergreen.**—Wintergreen, *Gaultheria procumbens* Linné (fam. *Ericaceae*), also known by many common and not so common names as gaultheria, teaberry, checkerberry, and hoxberry, is a small indigenous, woody, evergreen plant. The leaves are used to obtain a volatile oil by distillation but the entire plant has the aromatic odor and taste of the chief odorous component, methyl salicylate, which is hydrolyzed from a methyl salicylate glycoside by an enzyme in the plant. The leaves have a marked astringent taste.

**Sassafras.**—The flavoring known as sassafras is derived from an American tree of the laurel family, known botanically as *Sassafras albidum* (Nuttall) Nees (U. S. P. XII) and *Sassafras variifolium* (Salisbury) O. Kuntze (U. S. P. XI). The older literature carries the name *Sassafras officinale*. The odorous and aromatic principles used for flavoring are actually obtained from the root, mainly the root bark, so that years ago it was commonly called sassafras bark and sassafras wood. Saxifrax, cinnamon-wood, ague tree, and saloop are other names by which it is known.

**Ginger.**—Ginger, a perennial plant resembling the common iris, consists of the dried rhizome of *Zingiber officinale* Roscoe (fam. *Zingiberaceae*), with the outer cortical layers removed. Commercially, it is known as Jamaica and African ginger. It contains about 1 to 2 per cent of volatile oil, gingerol, shogaol, about 20 per cent starch, and mucilaginous materials. About 5 to 8 per cent of oleoresin can be obtained with acetone or ether as the extrac-

tant. Zingerone, which has been isolated from gingerol is a pungent material and has been shown to be 1-(3-methoxy-4-hydroxyphenyl)-3-butanone. Shogaol is also pungent. Ginger is used to give a warm, agreeable, pungent sensation.

**Hops.**—Hops or as it is listed in N.F., *Humulus*, is the dried strobile of *Humulus lupulus* Linné (fam. *Moraceae*) with its glandular trichomes. This botanical product has a bitter and aromatic taste and a pronounced characteristic odor resembling valerian when aged. It contains about 10 per cent of bitter substances, tannin, resins, and a volatile oil of terpene character to which the odor is attributable. It is used as a flavor component principally because of its bitter aromatic properties.

**Coriander.**—Coriander "seed" is the dried ripe fruit of *Coriandrum sativum* Linné (fam. *Umbelliferae*), an annual herb. The word coriander, koriandron in Greek, is derived from the Greek word koris meaning bedbug. This characterization is attributable to the fact that the fresh plant has a most disagreeable odor but on drying develops a delightful aromatic character. Coriander yields about 0.1 to 1 per cent of an essential oil whose principal component is *d*-linalool (coriandrol) comprising about 90 per cent of the oil. Other components are geraniol, *l*-borneol, the acetate esters, ethyl acetate, dipentene, cymene, the isomers of pinene, terpenene, and *n*-decylaldehyde.

**Dandelion Root.**—Taraxacum is the N. F. listing of dandelion root. It is the dried rhizome and roots of *Taraxacum officinale* Weber or *Taraxacum laevigatum* DC, also known as *Leontodon taraxacum* Linné (fam. *Compositae*) and as *Taraxicum dens-leonis*. The air dried root contains an essential oil, an oily resin, some fat acids including melissic acid, an unusual component of plants, namely *p*-hydroxy  $\alpha$ -toluic acid, about 25 per cent of inulin (in Autumn), some 17 per cent of an uncrystallizable sugar, and levulin a carbohydrate to which the formula  $C_6H_{10}O_5$  has been assigned. An enzyme and a saponin are also present. At times dried dandelion root and ground coffee are mixed, roasted, and powdered. The mixture is used to prepare a beverage in which the coffee aroma predominates and masks the dandelion odor.

**Cherry Bark.**—Wild black cherry bark is the carefully dried, autumnal bark of *Prunus serotina* Ehrhart (fam. *Rosaceae*). The enzyme emulsin acts upon a cyanide-bearing glycoside in the leaves, fruit, stem, and bark of the tree to liberate hydrocyanic or prussic acid. About 3 per cent of tannic acid, a bitter substance probably a glycoside, and benzoic acid produced by the oxidation of benzaldehyde are also present. The odor as one would expect is almond and the taste is bitter.

**Althea.**—Marsh mallow root is the dried root of *Althea officinalis* Linné (fam. *Malvaceae*) from which the brown corky layer and the small roots have been removed. It is preferable that the plant be at least two years old and that it be collected in the fall. The root contains about 2 per cent of asparagin, 11 per cent of sugar, and 1.25 per cent of fatty material. Because of its high starch and pectin contents, 37 per cent and 11 per cent, respectively, it is used pharmaceutically as a demulcent.

**Allspice.**—This flavoring material consists of the dried, nearly ripe fruit of *Pimenta officinalis* Lindley (*Myrtus rimenta* L.; *Eugenia pimenta* DC) (fam. Myrtaceae). It is also known as pimento, Jamaica pimento, and Jamaica pepper. The Mexican variety is larger in size and is considered inferior in quality to the Jamaica type and for this reason must be described as Mexican allspice. Allspice has a pungent, aromatic taste resembling a mixture of cinnamon, clove, and nutmeg and carries a concomitant clove-like odor, which is attributable to the 3-4 per cent of essential oil present.

**Angelica Root.**—The rhizome of *Angelica archangelica* Linné (fam. *Umbelliferae*) is known as angelica root. This flavoring ingredient has a strong odor and an aromatic pungent taste. The principal components of the root are angelic acid,  $C_5H_8O_2$ , a homologue of acrylic acid, valeric acid, about 6 per cent of resin, tannin, pectin, malic acid, sugar, starch, and a bitter substance. About 0.3-1 per cent of volatile oil is obtained from the root.

**Yellow Dock.**—Yellow dock known officially as *Rumex* and commonly as dock root, curled dock and the like, is the dried root of *Rumex crispus* Linné and *Rumex obtusifolius* Linné (fam. *Polygonaceae*). This material has an astringent, bitter taste and is virtually odorless. Emodin, identical with that isolated from cascara, the monomethyl ether of emodin and chrysophanol, chrysophanic acid, some glycosides, tannin, and a yellowish material analogous or related to anthocyanin are present.

In succeeding articles, the essential oil components of root beer flavorings will be described and the formulations that can be prepared from these materials will be discussed.

U. S. Dispensary, 23rd edition.  
U. S. P. XI and XII.  
N. F. VI and VII.  
Merch Index, 4th edition.  
Why We Say Hires to You. C. E. Hires & Co., Long Island City, N. Y.  
Nathan J. Grobman, Root-Beer Flavor. Term Paper, Polytechnic Institute of Brooklyn, 1947.

## Flavored Notes

The dried leaves of costmary, *Chrysanthemum majus*, which belongs to the aster family, are recommended for flavoring, poultry, meats, and tea.

\* \* \*

What is the exact description of the manufacture of rum ether? The following directions are given in the literature for the preparation of a rum essence or ether.

Components	Parts
Pyrolusite (manganese dioxide) . . .	200 grams
Pyroligneous acid . . . . .	140 grams
Ethyl alcohol 90 per cent. . . . .	1.1 liters
Sulfuric acid . . . . .	200 grams

Transfer the first three components to a glass distillation apparatus and mix. Afterwards add the sulfuric acid cautiously. Allow to stand for one day without stirring and then distill over 0.6 liter. If desired, add to the distillate 4 grams of ethyl butyrate and 20 grams of tincture of catechu. The distillate will provide sufficient material to flavor about 114.5 liters.

\* \* \*

Ethyl pyruvate,  $CH_3COCOOC_2H_5$ , is a colorless liquid with a pronounced rum-arack aroma which has been recommended for use in rum flavors.—*M.B.J.*

## Ed Marum, Cup Winner

Ed Marum, of William J. Stange Co. was the winner of the 38th Annual Golf Tournament play-off held recently, when he defeated Don Jenks 77 to 79. The play-off was necessitated because of a tie between Messrs. Marum and Jenks at the annual golf tournament held at Atlantic City in conjunction with the 38th Annual Flavoring Extract Manufacturers' Association convention.

Mr. Marum's name was engraved on the President's cup donated by former president, Garrett F. Meyer. The cup will become the permanent property of the winner whose name is engraved upon it for the third time.

## Dominican Republic Alcohol

The Dominican Republic's alcohol industry continued to produce at an expanded rate in the first half of 1947. In 1945, output was 567,000 gallons, and in 1946, 586,000 gallons.

## India Increases Sugar Production

Production of sugar in India in the 1946-47 season amounted to 5,576,000 long tons according to the Final All-India Sugarcane Forecast, 3 per cent above the 1945-46 output which totalled 5,416,000 tons.

## Jamaica, B.W.I., Sugar Production

Production of raw sugar in Jamaica during the year Sept. 1, 1946, to Aug. 31, 1947, amounted to 170,268 long tons, compared with 177,876 long tons for the preceding crop year.

The latest estimate (prepared by the Sugar Manufacturers' Association) for the forthcoming crop due to commence in January 1948 is 197,750 long tons.

The present crop began to leave the mills in the middle of January 1947 and stopped in the last week of August. It was the second largest crop in the history of Jamaica.

## Spice Imports Into U. S.

During August 1947, the United States imported 4,595,931 pounds of spices and spice seeds, valued at \$1,138,728, as compared with 7,170,385 pounds imported in August 1946, with a value of \$1,424,011.

The average price per pound in August 1947 was 24.8 cents, as against 19.8 cents in August 1946.

Of the 33 varieties imported, the quantity of only 11 varieties was greater in August 1947 than in the corresponding month of 1946.

The largest share of the spices imported consisted of black pepper, unground, 1,679,735 pounds, valued at \$501,117. In August 1946, the largest share consisted of cloves, unground, amounting to 2,148,033 pounds valued at \$238,275.—*Foreign Commerce Weekly.*

# Pineapple Flavors

J. V. W. WIGGERS De VRIES\*

THE pineapple is a fruit whose flavor is notoriously hard to duplicate. In this article, an attempt is made to give some data which may be of value but, of course, it will not be possible to name all of the products which might go into the formula of imitation pineapple. Quantities, where given, may be varied according to taste.

## BOTANIC ORIGIN

The botanic origin of the fruit is the *Ananas sativum*, which grows in the tropical and subtropical countries. The fruit develops on a short stem, and grows to a maximum weight of 5 to 6 kg. The flavor is found in substance in the peel, which is the reason for the poor yield when alcoholic maceration of the fruit flesh is employed.

According to Goetler, the composition of the whole fruit is as follows: Water 71.49 per cent, extract 13.55 per cent, sugars 11.90 per cent, insolubles 1.58 per cent, malic acid 0.79 per cent, ash 0.39 per cent and pectins 0.30 per cent.

Little is known about the chemical composition of the natural pineapple fruit oil. Some ethyl and amyl butyrate, amyl acetate, ethyl caproate and acetaldehyde may be isolated, but these data are of little value in compounding imitation pineapple flavor.

Some flavors on the market still depend too often on the liberal use of ethyl and amyl esters of butyric acid. Although these products are no doubt of value, their total quantity should not exceed 25 per cent. The best bases to use are the different esters of caproic and caprylic acid. Until recently, amyl caproate has been much in use, but now the allyl ester of this acid and caprylic acid have become available. They give excellent results as their odors are not so ethereal but more fruity and natural. It is important, however, that not the slightest trace of free allyl alcohol exists in these esters as this imparts a very bad flavor. In volume, these esters may be used up to 30 per cent. The ethyl esters of caproic and caprylic acid may be used with advantage to a maximum of 35 per cent. Because of its fresh odor, ethyl acetate may be used from 5 to 15 per cent.

To impart the pine odor, which is perceptible in the fruit, bornyl acetate or pine needle oil is recommended to the amount of 1 or 2 per cent. Care is necessary as too large a quantity will easily spoil the flavor. A liberal percentage of lemon and especially orange oil will have a good effect, and for the sake of solubility, the terpeneless equivalents are often used. Of the normal oils, up to 15 per cent may be used, and of the terpeneless oils proportionally less.

Enanthic ether or cognac oil natural will give the vinous cachet, but of the former no more than 3 per cent should be used, and of the latter, half that amount. About 4 per

cent vanillin may round off the flavor, and to obtain a good bottom note, between 1 and 3 per cent cinnamyl acetate or a proportionate amount can be included. Other good modifiers are: Ceranyl butyrate and benzyl propionate, 1 to 3 per cent;  $\alpha$ -ionone for sweetness, one half of 1 per cent; and decyl butyrate and acetate, one half of one per cent.

For the top note, some nonyl- or decylaldehyde 10 per cent, together with neroli or terpeneless petitgrain oil may be of importance. Of the aldehyde solutions, up to 0.4 per cent may be used from each, and of the neroli type oils from 1 to 2 per cent. Butylaldehyde 10 per cent gives very good results, too, if less than 0.3 per cent is used.

## PINEAPPLE FLAVOR IMITATION FORMULA

\*An example of a rather flowery and sweet pineapple flavor imitation may be obtained through the following formula:

ethyl caproate	200
allyl caproate	200
ethyl butyrate	150
orange oil Ital.	100
ethyl caprylate	100
amyl butyrate	80
ethyl acetate	70
ethyl penanthate	20
vanillin	20
benzyl propionate	20
cinnamyl acetate	15
bornyl acetate	10
neroli bigar.	10
nonylaldehyde 10 per cent	5
	1000

This flavor base might use solvent from 5 gr. per kg. up. The taste will, of course, be much finer if some natural pineapple juice or extract is added.

## Peppermint Oil, China

No stocks of natural oil of *mentha arvensis* are available in Taiwan, China, according to official and private sources. Estimates of the acreage devoted to peppermint cultivation are unobtainable. Average prewar production of natural peppermint oil in Taiwan was approximately 79,380 pounds per annum. Former growers of peppermint have shifted to the raising of food crops.

## Pricing Vanilla Beans

We recently printed a short report on the vanilla industry in Dominica in which we reported the local price for the May commodity at BWI \$1 per pound. (BWI \$1.18 = U. S. \$1). Actually, we are informed, it takes an average of 6 pounds of green beans to make 1 pound of the cured, exported product. So, the finished product had a value of about \$6 B.W.I. Added to this is the cost of curing.

\* Jean A. du Crocq Chemical Works, Bussum, Holland.



# U.S.I. CHEMICAL NEWS

December ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1947

## Claims Pickling Solutions Can Be Regenerated by Means of Ethyl Alcohol

Process Said to Be Efficient, Economical — Regains All Acid

An efficient and economical method of removing the bulk, or practically all, of the iron contents of pickling solutions and regaining all of the acid solution for further pickling treatment is based on the addition of ethyl alcohol to the spent pickling liquor. A complete description of the process is contained in a government report issued recently.

The alcohol is not added in a concentrated form but is diluted with three times its own volume of distilled water. One gallon of this mixture is added to every ten gallons of pickling solution and cooled down to room temperature. The solution is stirred thoroughly, all the iron precipitating in the form of iron sulfate. The alcohol can be removed by fractional distillation, while the liquor is reacidified to full strength.

### Complete Regeneration

The liquor regenerated in this fashion is said to possess all the characteristics of a freshly made solution. Mixtures of sulfuric and hydrochloric acids can also be regenerated by this process, the sulfates crystallizing out, while the harmless chlorides remain in solution.

The ethyl alcohol process is claimed to be of special importance for the regeneration of electrolytic pickling baths in which the articles after de-scaling are covered with a thin protective film of lead, zinc, copper, tin or cadmium.

### NEW PACKAGE DESIGN



Solox, U.S.I.'s popular proprietary alcohol-type solvent for general use, is now packaged in attractive modern cans.

## Many Important New Commercial Alcohols To Be Made Available From Fischer-Tropsch Process

Large Quantities Will Help Alleviate Continued Material Shortages — Products Will Include 2-Methyl-1-Pentanol, 2-Ethyl-1-Hexanol

Shortage of important alcohols currently experienced in the chemical industry will be greatly alleviated by new supplies to be made available by U.S.I.

These products, basic to the industry, will be among the wide range of chemicals which U.S.I. will market from the American version of the Fischer-Tropsch process.

### Increased Supplies of Ethanol, Butanol

Wartime shortages of ethanol and butanol did not stop with the end of hostilities. Demand for these versatile solvents exceeded expectations, and users continue to experience difficulty in meeting their total needs. The new Fischer-Tropsch source for these two alcohols has received enthusiastic re-

## New Cancer Treatment Shows Promising Results

The use of urethan as a treatment for prostatic cancer has shown promising results, according to a report emanating from a mid-western university. Urethan is said to reduce the size of the cancer and to bring about beneficial results even when other therapies have failed. Other experimenters have reported favorable results with the use of urethans on experimental animal tumors, and in the treatment of leukemia (cancer of the blood).

## Nylon Hair Brush Broken? Here's How to Repair It

While many hair brushes today have nylon bristles, the handles and backs are usually made of some other plastic. If it's transparent, it's probably polymethyl methacrylate—and there's no trick at all sticking pieces of this together. The best adhesive is a solution of the plastic itself in acetone. Household cements are a second choice, but do a good job too.

## Titanium Found to Keep Metals from "Tiring"

When a piece of iron, like a wire paper clip, is bent many times, it gets "tired" and finally breaks with about half the stress required when the metal is fresh. However, by alloying the iron with certain other metals, of which titanium is most effective, it tires much less easily, according to a paper read recently before an American scientific society. The study showed that, after titanium, most effective in improving fatigue strength of iron are molybdenum, silicon, manganese, nickel, cobalt, and chromium.

## 8500 Rare Chemicals Listed

Need parachlorobenzotrifluoride? muconic acid? beta-isopropoxypropionitrile? potassium tertiary-butoxide? or any other rare chemicals? One way to locate them is to contact the National Registry of Rare Chemicals. Their files, which list the supply sources of more than 8,500 rare chemicals, are the most complete of their kind in this nation.



New Alcohols in large quantities will be made available by U.S.I. from the output of the first Fischer-Tropsch plants. Constant research in U.S.I. laboratories accelerates the development of these new compounds.

sponse from members of the chemical and related industries.

### Makes n-Amyl Alcohol Commercially Available

In addition to ethanol and butanol, U.S.I. will also offer n-propyl and n-amyl alcohol. Normal amyl alcohol has not been available commercially before, and the commercial availability of n-propyl alcohol has been comparatively recent. The production of n-amyl alcohol will offer new opportunities for research and development on this basic chemical. The paint, varnish, and lacquer, and the pharmaceutical industries, in particular, are expected to make wide use of both these compounds.

**MORE**

## CONTINUED

## NEW COMMERCIAL ALCOHOLS

## Variety of New Alcohols

U.S.I. will also market 2-methyl-1-pentanol and 2-ethyl-1-hexanol, new alcohols derived from Fischer-Tropsch aldehydes. The large quantity of aldehydes made from the Fischer-Tropsch process are of primary interest because they are raw materials for long-chain, high-molecular-weight alcohols. Included as possible products from synthesis beginning with aldehydes are: 2-methyl-1-butanol, 2-ethyl-butanol, n-hexanol, 2-ethyl-1-pentanol, and 2-methyl-1-hexanol.

## Wide Range of Applications

Interest is focused on these alcohols to a large extent because their chemical combinations with monobasic and dibasic acids yield products of a wide range of applications. The acetates of the lower alcohols are widely known as lacquer solvents. Higher boiling esters resulting from the reaction of aliphatic acids and longer chain alcohols offer solutions of problems when higher boiling sol-

vents are required. Of even greater interest, however, are the higher alcohol esters of the dibasic acids such as phthalic and sebacic. These esters are well known as plasticizers for a wide range of resinous materials.

## Will Stimulate Development

The more certain raw material supply made possible by the Fischer-Tropsch process will undoubtedly stimulate development and increase the application of these materials. The accelerating use of all resins, with its correspondingly increased need for plasticizers, makes the provision of a new supply of alcohols especially significant.

Plant construction and marketing plans required by this new source of materials are being actively pursued, and it is anticipated that these new materials will be available within a two-year period. Prior to that time, U.S.I. will offer sample quantities of these new alcohols. The date of availability will be announced in these columns.

## FIRST PACIFIC COAST CHEMICAL

## EXPOSITION ATTRACTS 15,000

Ninety-three exhibitors, representing leading manufacturers of chemicals and solvents on the Pacific coast and many national concerns with west coast offices, played host to approximately 15,000 visitors at the first Pacific Coast Chemical Exposition in San Francisco. The U.S.I. exhibit, featuring a wide range of U.S.I. chemicals, proved a popular meeting place. Here, left to right, seated, are R. C. Curtis of the Dow Chemical

Co., San Francisco; S. L. Schwartz of the L. H. Butcher Co., Los Angeles; D. E. Eichlerberger of the American Marietta Co., Seattle; L. A. Keane, U.S.I., New York; Ronald Benson, of the Carl F. Miller Co., Seattle; and Norman MacBeth of the MacBeth Corporation, New York. Standing, in the same order are G. C. Dohm, Clyde West, and R. E. Alexander of U.S.I., Los Angeles, and Wells Newell, U.S.I., New York.



## TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing U.S.I.

To cut tinting time in oil paints and enamels, a new compound has been marketed which is said to eliminate all types of silking, flooding, and floating. (No. 265)

USI

A new rubber, claimed to have excellent dry heat resistance and to maintain its rubbery characteristics even at 300 deg. F. for 700 hours, is alleged to be easier to manufacture than butadiene rubbers. (No. 266)

USI

To improve the surface qualities of polystyrene plastics, a new treatment is offered which is said to increase mar resistance, repolishability, light transmission, and resistance to solvents. The process does not require special equipment and is completed in 20 minutes, the makers state. (No. 267)

USI

For use in dispersions and emulsions, a low-cost industrial product is now available in tank car quantities. This by-product is rich in gums and pentosans. (No. 268)

USI

A new fungicide, stated to provide permanent protection against dry rot, fungi, and most insects, is claimed to be easily-applied, non-toxic, non-injurious to wood or fabric and to maintain its strength indefinitely even after washings. (No. 269)

USI

To help prevent eye injuries from acids, an eye washing fountain is now on the market. It is ready for instant action on the scene of the accident, and is operated by the forehead, leaving hands free to open eyelids and wash both eyes, according to the manufacturer's description. (No. 270)

USI

To extend phenolic resin and protein adhesives, a new plywood glue constituent has been developed which is claimed to provide uniform spreading over protracted periods, and to decrease glue-line costs. (No. 271)

USI

An improved slide rule is now being produced. According to the manufacturer, the scales on the front of the rule are so arranged that only one setting of the hairline gives with each result its square, cube root, and logarithm. The log scale on the back gives five readings with each setting of the hairline. (No. 272)

USI

A new adhesive for carpets, described as a self-curing liquid, is said to be strong enough to butt-joint sections of carpet padding without reinforcement. It can also be used to repair areas of dry rot, the makers claim. (No. 273)

USI

To prevent pre-cured rubbers from sticking, a new pre-cure wax finish is offered which is said to be applicable to molded, extruded, or calendered products and to serve as a mold release as well. (No. 274)

## U.S.I. INDUSTRIAL CHEMICALS, INC.

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## Ethanol (Ethyl Alcohol)

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Completely Denatured—all regular and anhydrous formulas  
Pure—190 proof, C.P. 96% Absolute  
\*Super Pyro Anti-freeze  
\*Solox proprietary Solvent

## \*ANSOLS

Ansol M  
Ansol PR

\*Registered Trade Mark

## ACETIC ESTERS

Amyl Acetate  
Butyl Acetate  
Ethyl Acetate

## OXALIC ESTERS

Dibutyl Oxalate  
Diethyl Oxalate

## PHTHALIC ESTERS

Diamyl Phthalate  
Dibutyl Phthalate  
Diethyl Phthalate

## OTHER ESTERS

\*Diethyl Carbonate  
Diethyl Chloroformate  
Ethyl Formate

## INTERMEDIATES

Acetoacetaldehyde  
Acetoacet-ortho-aniside  
Acetoacet-ortho-chloranilide  
Acetoacet-ortho-nalide  
Acetoacet-para-chloranilide  
Alpha-acetylbutyrolactone  
3-Chloro-2-pentanone  
3-Diethylamino-2-pentanone  
Ethyl Acetoacetate  
Ethyl Benzoylacetate  
Ethyl Alpha-Oxalopropionate  
Ethyl Sodium-Oxalacetate  
Methyl Cyclopropyl Ketone

## ETHERS

Ethyl Ether  
Ethyl Ether Absolute—A.C.S.

## FEED CONCENTRATES

Riboflavin Concentrates  
\*Vitamin 40  
\*Curbay B.G. \*Curbay Special Liquid

## ACETONE

Chemically Pure

## RESINS

Ester Gums—all types  
Gango Gums—raw, fused & esterified  
\*Aroplaz—alkyds and allied materials  
\*Arolene—pure phenolics  
\*Arochem—modified types  
Natural Resins—all standard grades

## OTHER PRODUCTS

Collodians Ethylene  
Ethylene Glycol Urethan  
Nitrocellulose Solutions M-Methionine  
Printed in U.S.A.

# SOAPS

## Historical Facts on Soap

G. SCHAEFER\*

IN Germany the soap-boiling trade developed more slowly than elsewhere. The reason for this lies mainly in the fact that the raw material employed was inadequate and that nearly every household boiled its own soap with the most primitive means. The first soap-boiling houses in Germany developed in the course of the fourteenth century, the first at Augsburg in the year 1324. In 1500, barbers did not generally know of soap as a means of cleaning, and it was considered to be a specialty, formally described in treatises on herbs, and mainly used for medical purposes. In the Middle Ages, shaving had to be carried out in the bath in order to make it less painful. It was only after 1524 that lathering with soap became customary for shaving, and barbers in many towns, for instance at Reutlingen, retained the right of making their own soap. Only in the seventeenth century can soap be spoken of as in general use in Europe. Even at that time Garzoni wrote that soap boiling was a comparatively new art practiced with great skill at Venice, Genoa, Naples, Rome, Savona, Gaeta and Bologna. "There are six things," said Garzoni, quoting Trifernus, "indispensable in this world, namely, bread, wine, oil, salt, spice and soap." Abraham a Santa Clara, the Austrian divine who belonged to the order of the barefooted Augustinians (1644-1707), loved to use parables from everyday life, and the example of soap which cleans the body from dirt, provided the subject matter for a whole chapter on the cleansing effect which confession and penance have on the soul; he mentioned that in Italy the soap-boilers were protected by the Church.

The fact that wearing dirty clothes is extremely unhealthy became only gradually realized. An important

contribution to this subject was made by the German physician Johann Zacharius Platner (1694-1747) in his "Tractat von der Reinlichkeit" (a treatise on cleanliness) published in Leipzig in the year 1752, in which the danger of dirty clothes was expressly pointed out. As to the necessity of frequent baths, Platner remarks as follows: Since the public baths in which our forefathers sought relaxation after work have disappeared, at least in our part of the country, frequent baths seem to be all the more necessary nowadays for all those whose work brings them in contact with dirt and grime, and, indeed, for everyone." It was only about 1900 that an exact idea was gained of the dangerous effect on the body of dirty clothes and the importance of frequent baths for the hygiene of the body was clearly demonstrated on the ground that ammonia and carbonic acid emanate from clothes worn for too long a period.

At the beginning of the seventeenth century, Genoa was the leading Italian soap manufacturing center, and it is due to the influence of this town that G. B. Colbert (1619-1683), who had become Comptroller General of Finances under Louis XIV (1643-1715), gave a new development to the soap industry in Marseilles, which had constantly declined ever since the fourteenth century. Very soon the art of soap-boiling was introduced from Marseilles to the neighboring town of Toulon. Though the former, being capital of Provence, furnished the very best olive oil soap and was naturally destined to be foremost in the French soap industry, it was entirely due to the French monopolies which then existed that Pierre Rigat of Lyons managed to become head of the French soap manufacturers. In 1666, Rigat—by no means a soap expert but rather a first class business man—made the tempting offer to Louis XIV to produce soap for the whole of France without importing any raw material. On the basis of this offer he was granted a royal charter for twenty years, which expressly stated

This article is continued from the November issue of THE AMERICAN PERFUMER.  
\* Reprinted from the *Olba Review*, Basle, Switzerland.



that he alone had the right to establish factories in France for the production of white, mottled and any other kind of soap. The existing six or seven factories, including those of Marseilles, were to be maintained on the condition that their plant should not be increased and that their production be sold to Rigat at a fixed favorable price. The Government was, however, obliged to abolish this privilege in the year 1669 owing to its harmful effect on French economy.

#### CONTROL OF SOAP IN FRANCE

From the end of the seventeenth century onward, the manufacture and sale of soap were strictly controlled in France by the so-called "Prudhommes" (men of experience). Nevertheless, this new control crippled the French soap industry, and even legislation was severely hampered for more than a century. The most peculiar decrees were passed on the suggestion of the "Prudhommes." In 1688, for instance, the manufacture of soap was to cease entirely during the months of June, July and August. Furthermore, only olive oil was to be used, and severe control was exercised to ensure that fresh oil should not be employed until the 1st of May each year. Apart from barilla (ashes obtained from sea-weed mainly imported from Alicante), lye could only be made from soda. The manufacturers were not permitted to come to any mutual agreement concerning the prices of raw materials purchased and soap sold. These regulations, which severely crippled the French soap industry, were only superseded in the year 1754, and the Revolution of 1789 removed the last vestige of these economic bonds. It was during the nineteenth century that Napoleon I gave the French industry a new impetus by excluding all foreign competitors.

In England meanwhile the mercantile system had also produced most unhappy results. During the reign of the early Stuarts there existed an outrageous misuse of granting monopolies for soap, salt, glass, wine, alum, etc. The granting of such monopolies was intended to create new revenues which would make the Crown independent of parliamentary control and at the same time give the country economic freedom. At that time the consumption of soap in England was already very high and promised good returns. In 1622 an English company was granted a monopoly for the production of soap, on the condition that a tax of £4 per ton per annum should be levied for the King on a yearly output of 5,000 tons. The rule of this company was that soap should be made according to their own method from native raw materials. In order to improve the quality of local soap, it was prescribed that vegetable oil should replace blubber. The company had the right to denounce any independent soap boilers. A good many of the latter refused to recognize or join this company. However, a Royal decree forbade any person to sell soap who had not been approved by the Westminster Corporation, founded in 1631. By these drastic measures, soap-making was centered in London (Westminster) and in Bristol, but the resistance of independent soap-boilers had to be broken down. In 1633, for instance, sixteen soap-boilers were accused of having broken the law concerning this monopoly. The accused attempted unsuccessfully to defend their case, but the judges pronounced in favor of the Royal Charter, and ordered that the accused be kept prisoners at his Majesty's pleasure. In addition, they were fined between £500 and £1,500. For

forty weeks fourteen of the accused suffered imprisonment and two of them died in jail. It was only in 1637 that the Government, realizing that the existing measures were inappropriate, completely suppressed the monopoly and permitted the London soap-boilers to resume their trade.

From 1685 onward the soap-boiling industry was given a new and powerful impetus by the arrival of the Huguenots. At this time a certain medicated soap which had been invented by a Londoner called Starkey, became known and very popular under the name of "sapo tartareus." This was produced with turpentine oil and vegetable alkali and was highly recommended by apothecaries as a remedy for gravel.

For many centuries soap was very highly taxed in England. In 1711, an excise duty of one penny per pound was levied. This tax was retained throughout more than a hundred years, and for good, hard soap was increased to three halfpence in 1833.

For a long time Holland possessed important oil manufacturing and was known for its trade in soda. These industries were carried on simultaneously with soap-making. The quality of Amsterdam soap was guaranteed by public laws. In 1618 a strict order forbade the import of oil of poor quality which would have been harmful to the soap manufacture, and since 1621 it had been forbidden to mix oil with blubber, which was very cheap at that time owing to the development of whaling. The Dutch were so convinced of the future of their soap industry that in 1635 they attempted—without success—to open an oil manufacturing in Venice. In the seventeenth century there were four soap factories in Haarlem. Nearly all soap factories in Holland, particularly those in Amsterdam, were combined with other important commercial enterprises. Thus the two soapmakers, Spiegel (who died in 1667) and Pancras (who died in 1649) were on the Board of Directors of the East India Company.

#### SOAP FACTORY IN DENMARK

In Denmark the first soap factory was established in 1660. There, too, discredit was avoided by forbidding the use of blubber. The same measure was taken in France and followed in Brabant, where the soap-boilers were obliged to swear an oath not to use blubber in their trade. In Denmark the import of Dutch soap was only permitted if guaranteed by the Burgomaster of Amsterdam to be pure Amsterdam soap. In 1682, when two soap-boilers



French noblewoman preparing for a foot bath. The full bath was almost unknown at the baroque period

started working in Copenhagen with a ten-year monopoly, the import of Dutch soap was forbidden. In 1704, however, this prohibition was replaced by a high import duty.

In Germany, owing to its division into a great number of small states, wide industrial expansion of the soap-boiling trade was impossible, and it had remained a cottage industry. Each local authority had its own soap trade, causing a dearth of raw material. Each state was alternately short of fats, or of wood necessary for the production of lye, so much so that toward the end of the 18th century, it often became necessary to use waste ashes left over after klier boiling. However, it is known that in the reign of Frederick the Great large scale attempts were made by the Government to make the country independent of the Marseilles market which supplied the soap so necessary for the Berlin silk trade. German soap, black or green up till 1800, was very cheap in comparison with the imported kinds. Nevertheless, it had the disadvantage of an unpleasant smell due to the quality of oil employed: Hempseed, linseed, turnip, or blubber. This inevitable smell of soap became associated with the country folk, so much so that in 1863, the poet Wilhelm Raabe (1831-1910), in his work entitled "Die Leute aus dem Walde," says: "It is more important that all people should smell of green soap, than that he or she should smell of perfume." The various kinds of soap of the nineteenth century, which were produced from tropical vegetable fats, were at first rejected by the public owing to the fact that they did not possess the customary unpleasant smell, and were contemptuously refused as "factory or soda soap."

It was only when these new kinds had become generally accepted that in Germany, too, the consumption of soap took considerable proportions. This change was described in words often since quoted, by the great German chemist Justus von Liebig (1803-1873) in his "Chemische Briefe" published in 1844, as follows: "Soap has become a measure of the prosperity and culture of peoples. It is certain that in any comparison of two countries of the same number of inhabitants, the richer and more cultured will be that which uses more soap." This quotation shows clearly the important role which soap is playing in the life of man nowadays, after its historical development of more than two thousand years.

### Total Sales of Soap

According to Roscoe Edlund, manager of the Association of American Soap & Glycerine Producers, Inc., and based on reports from 70 manufacturers making nine-tenths of the soap produced in the U. S., deliveries in the third quarter of 1947, ending Sept. 30, amounted to 679,360,000 pounds of soap other than liquid, plus 701,000 gallons of liquid soap. These amounts are slightly greater than in the second quarter of the year, and about equal to the first quarter.

Deliveries of soaps other than liquid in the nine months ending Sept. 30, totalled 2,000,723,000 pounds from the manufacturers reporting, compared with a peak of 2,417,495,000 pounds delivered by the same manufacturers in the corresponding period of 1944. Liquid soap delivered during the nine months amounted to 2,089,000 gallons, compared with a peak of 2,459,000 gallons for the corresponding period in 1945.

The value of all soaps delivered during the nine-month period was \$450,598,000.

### French Soap Supply Inadequate

Marked improvement was noted in the French soap industry during March of this year. In that month, 17,000 tons were produced, compared with 15,400 tons in the preceding month.

Demand for soap in France is still far in excess of supply. Even at the recent improved rate, output of toilet soap is only 65 per cent of the 1938 average, and that of household soap, only 31 per cent. The great lag in the manufacture of soaps is attributed to shortages of fats and oils.

### Soap Production in Germany

The British press reports that Unilever, Ltd. recently exported 1,000 tons of fatty acid to Germany for manufacturing soap, which will facilitate a fuller utilization of the Sunlight A. G. plants in the Rheinau suburb of Mannheim (U.S. Zone) (the Sunlight A. G. is attached to the Unilever group. The purchase of 4,000 tons of U.S. Army soap has also been arranged. It is believed that this action will enable the basic soap ration to be maintained in the combined Zones, but will only temporarily ameliorate the very serious position in the soap industry in the British Zone, according to a recent report by the Control Commission of Germany).

It is mentioned that this plant escaped damage, now employs 75 per cent of its normal staff, and operates at 60 per cent of capacity, but that because of scarcity of raw materials, from 50 to 80 per cent of fat has to be saved in the manufacture of soap. The percentage of fatty acid in soap powders is reduced at times to less than one-fifth of the normal content.

### Shaving Preparations Statistics

According to the September issue of *Domestic Commerce*, brushless shave cream was used by 53 per cent of all shavers in 1945.

The sale of shaving creams amounted to 23 million dollars in 1946. Estimates of retail sales of other shaving items are: shaving lotion, 8 million; talcum, 2 million; and styptic pencils, \$500,000. Estimates for 1945 are: Shaving creams, \$20,182,000; after shave lotion, \$7,840,000; talcum powder, \$1,800,000 and styptic pencils, \$505,000. According to a trade magazine the 1940 wholesale value of shaving creams (the latest available data) was \$5,830,000. Shaving soaps declined in wholesale value to \$8,480,000 in 1940 from \$9,900,000 in 1937.

In 1939, the total value of shaving soaps and lathering creams, at the manufacturer's level, was listed by the Census of Manufacturers at \$8,551,297. This amount consisted of stick, powder, and cake soaps, \$2,394,754, and lathering cream, \$6,156,543. In comparison, the total value of these products in 1937 was somewhat higher, \$9,729,533. In that year, the value of production of lathering cream was \$7,775,266, and of shaving stick, powder and cake soaps, \$1,954,272.

While the value of lathering creams declined, that of brushless shaving creams climbed from \$1,854,219 in 1937 to \$4,186,692 in 1939.

# Distributor Wanted

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# Report on Fats and Oils\*

**I**N no importing countries is demand presently being satisfied by the supplies available, and even in a number of exporting countries consumption is being restricted, either by design for reasons of export-import policy, or through the impact of high prices. In most exporting as in all importing countries consumption levels are below prewar. Estimates prepared last December by the IEFCE Fats and Oils Secretariat indicated that the quantity of imports required, together with indigenous supplies, to give prewar per capita levels of consumption in the statistically covered countries, amounted to 5 million tons as compared with available 1947 world export supplies then estimated at 3 million tons. This calculation excluded the similar import requirements of Germany and Japan, which would add another 1.6 million tons to the deficit.

## USA

"Turning now to the USA there is a tendency in some quarters to conclude that since there is no rationing, the mid 1947 recession in market prices indicated that demand was approximately satisfied at new price-wage levels and relationships. It is extremely difficult to make a judgment on this, not only because of the relatively short period during which prices fell but also because of the impossibility of obtaining figures of real consumer 'consumption'—or even purchases—as distinct from recorded primary disappearance of fats and oils. During the latter part of 1946 there was a general tightness in supplies at all trade levels, followed in 1947 by an apparent heavy movement of supplies to wholesalers, retailers and consumers. Whereas retailers' shelves were relatively bare of fats and oils as late as December, from then onwards wholesalers and retailers built up inventories considerably. This dealer demand was added to the demand for immediate consumption. After stocks had been rebuilt this demand fell off, and movement to these trade channels declined sharply. It is difficult, however, to judge the extent to which increased retail sales were made as compared with say twelve months ago or with any normal prewar period.

"Despite the recession of prices from March to August, wholesale and retail prices are still considerably above the level existing prior to the termination of OPA controls (viz. at mid-1946). Consumer resistance to these prices at their March, 1947, peak was quite definite but at current (September) price levels, resistance is not so emphatic though still noticeable.

"In the United States, as in many other countries, it is dangerous to generalize regarding levels of consumption and demand since there are such wide variations between regions and between social and income groups. Thus a stationary level of aggregate 'consumption' over twelve months may conceal important increases and decreases

with all their economic and political implications. Bearing this in mind it is interesting to note that the latest official estimates suggest that the total U. S. internal disappearance of food fats and oils was 39.5 pounds per civilian both in 1946 and 1945, compared with 41 pounds in 1944, 42 pounds in 1943 and the 1937-1941 average of 46 pounds (or the somewhat lower 1935-1939 average of 44.7 pounds). For 1947 the estimated supply available for domestic consumption represents about 42 or 43 pounds, but it cannot yet be judged whether consumption during the year to date has been above or below this figure.

"As regards fats utilized in the form of soap, paint and other inedible products, consumption is officially estimated at 24 pounds per head in 1946 and 1945 compared with a fractionally higher level in 1942 to 1944 and a prewar average of 24 pounds; the 1947 available supply is forecast at little, if any, above 24 pounds. It should be noted, however, that these figures relate only to the fats and oils covered in this report and do not include resin and tall oil (of which latter product the soap industry is using larger quantities than before the war); moreover the production and sale of soapless detergents is also increasing so that it is probably true to say in the wider context that the demand for soap and possibly also other technical fats is now covered at probably above prewar per capita levels.

"To the extent, however, that the current supply of technical fats exceeds demand, this would soon correct itself either by changes in the import-export structure, by a decline in the price level stimulating consumption, by switches from industrial to edible utilization or by a combination of these factors. Conversely any shrinkage which might develop in the supply of soapery or other technical fats would quickly affect prices and supplies of edible fats, with inevitable switches. The important question remains, therefore, that of appraising overall United States consumer demand for fats at current prices and the extent to which such demand would increase if oil prices declined, assuming that real wages and national income remained relatively stable.

## CONSUMPTION AND DEMAND TRENDS

"Enough has been said to indicate the varying trends of demand, or at any rate consumption, during the war and postwar periods. In some countries the increases or decreases which have occurred since 1939 in the consumption either of visible fats as a whole or particular fat products are largely the result of abnormal conditions associated with the war, and reversion nearer to prewar norms may possibly be expected in due course. To a large extent, however, the war has only accelerated developments which were steadily building up during the late '30's. The war stimulated the use of new types of fat products and fat substitutes which are more than likely to become permanent (e.g., the heavy use of soapless detergents, etc.) In

\* Excerpts made available through the Potash Soap Association. Report issued by the Fats and Oils Secretariat of the International Emergency Food Council, Sept. 30, 1947.





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most countries, both those with relatively high and low consumption prewar standards, the utilization of fats was gradually increasing. There was also a marked tendency for indigenous material (e.g., non-graded lard and edible tallow) to be steadily replaced by shortening, margarine, and other manufactured edible fats, mainly under proprietary brands and guarantees of quality.) Similarly there was a steady increase in the demand for margarine and soap—even by the self-supplier who in previous generation made his own butter and soap from his farm or backyard resources.

"The importance of this replacement of the rural by the commercial product during the 20th Century is perhaps not adequately recognized and, whereas this trend was experienced mainly in Europe and North America, it is now gathering momentum in Latin America, India and other similar economies. \* \* \* \* \*

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### Potash Soap Annual Meeting

The annual meeting of the Potash Soap Association will be held Jan. 27, 1948, at the Hotel Biltmore, New York, N. Y. This supersedes the original plan which was to hold the meeting in Baltimore, Dec. 4 and 5.

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### Procter & Gamble Reports Profit

Procter & Gamble Co., Cincinnati, Ohio, has reported a consolidated profit of \$18,514,575 for the three-month period ending Sept. 30, after providing \$10,885,000 for United States and foreign income taxes. For the comparative period last year, consolidated net earnings amounted to \$5,670,823, after providing \$3,120,000 for income taxes.

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### Schneller Becomes Merchandise Manager for Lever

Frederic A. Schneller has been named general merchandising manager of Lever Brothers Co., Cambridge, Mass. Mr. Schneller, who has won widespread recognition for his direction of merchandising and sales campaigns, was formerly vice-president of Cramer-Krasselt Co., Milwaukee, Wis. In his new position, he will direct sales promotion and sales planning for all Lever Brothers products.

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### Soap & Glycerine Producers to Meet in January

The Association of American Soap & Glycerine Producers, Inc., is to hold its annual convention at the Waldorf-Astoria Hotel, New York, N. Y., Jan. 28 and 29.

James A. Reilly, Colgate-Palmolive-Peet Co., is acting as chairman. Other members of the committee are: John O. Browell, Lever Brothers Co.; R. S. Carmel, H. Kohnstamm & Co.; E. B. Hurlburt, J. B. Williams Co.; C. D. Poland, Poland Soap Works; W. G. Werner, Procter & Gamble, and M. L. Westering, Swift & Co. In his capacity as president of the Association, George Wrisley, Allen Wrisley Co. is also working with the convention committee as is Walter Straub, Walter Straub & Co.

### Pfeilring Again Producing Soap

The Pfeilring Works in Berlin, formerly Jaffe & Darmstaedter, now has one of its two plants almost completely restored to operation, and the other will be in operation shortly. The British press reports that in June the firm produced 80,000 soap tablets, 100,000 pieces of shaving soap, 150,000 packets of protective cream, and about 100,000 jars of cold cream.

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### British Soap Prices Increase

Prices of most varieties of hard soap, including household bar soap and carbolic soap, in the United Kingdom recently were increased, owing to the higher cost of raw materials, reports the British press. This action brought prices of such soaps into line with those of other soaps which had previously been increased.

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### John Breck Wins Award

John H. Breck, Inc., Springfield, Mass., has been awarded top honors for direct mail campaign in its field in the 1947 Direct Mail Advertising Association's "Best of Industry" competition.

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### Prichard Director of Fats and Oils

George L. Prichard has been appointed director of the Fats and Oils Branch of the Production and Marketing Administration. He succeeds Omer W. Herrmann, who was recently appointed assistant administrator of the Agricultural Research Administration.

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### Spanish Olive Oil

Trade circles have estimated that production of olive oil in Spain in the 1947 season (Nov. 1, 1947, to May 15, 1948) may reach 450,000 metric tons, which is approximately the same production level that was predicted for the 1946 crop.

About a year ago, the Spanish Ministry of Industry and Commerce announced the regulations covering the exchange of a maximum of 5000 metric tons of olive oil for a similar quantity of soybean oil. By the end of December, 1946, approximately 4643 metric tons (10,235,958 pounds) of olive oil were shipped to foreign countries, of which 4184 metric tons went to the United States. The remainder went to Italy and England.

The Spanish Ministry of Industry and Commerce authorized informally on May 1, 1947, through the Sindicato del Olivo, the exportation of olive oil packed in tin containers at a minimum price of \$220 for 100 kilograms, and on July 31, 1947, it agreed to the exportation of olive oil of less than 1 deg. acidity to the United States, packed in drums, at the minimum rate of \$160 for 100 kilograms. Exportation of olive oil from Spain during 1947 has been small, reportedly because of the lower prices for this commodity which have prevailed in Italy and Greece.

In the first seven months of 1947, Spain exported to the United States, 897,041 pounds of olive oil valued at \$650,704.



# WASHINGTON PANORAMA

by ARNOLD KRUCKMAN

**T**HE long expected proposed Fair Trade Practice Rules for the Toiletries and Cosmetic Industry may be expected to be issued shortly after New Year, unless something unexpected derails the train of expectations or wrecks it entirely. After the long wait it is now certain that demonstrators, advertising concessions, and pms, will *not* be permitted unless they are made valid right across the board to every merchandiser regardless of volume or size. As every one knows, it was this phase of the business that held up the publication of the proposed rules, and the calling of the final public conference in the Capital which will eventually determine the jelled form in which they will become legal.

#### ROBINSON-PATMAN ACT

The proposed submission of the plan to secure an amendment from Congress, which would make debated practices applicable to every type of retailer, did not happen. The suggested changes were widely discussed informally with Members of Congress, including Congressman Wright Patman, author of the Robinson-Patman Law and its amendments, as well as various members of the Interstate and Foreign Commerce Committees, but no effort was made to bring the amendments before the Committees, or the Congress, by formal means.

There is no doubt the program had strong support in some sections of the industry, and among some members of the Federal Trade Commission. There were unquestionably Members of Congress who sympathized with those who sought the modifications. But the great majority apparently either were opposed, or were very lukewarm. George Freitas, who represents the independent retail druggists numbering tens of thousands; and others, who speak for the smaller retailers in various classifications, obviously made a deep impression upon the Members of Congress. There is a decisive quadrennial election year ahead. Every Member of the House must stand for election, and many members of the Senate come up for re-election. Moreover, there has seldom been the prospect of such a confused Presidential campaign as that of 1948. It is logical that those who make policy should steer away from any legislative issue that may cost votes.

It also was strongly argued that any amendment to the Robinson-Patman Act should be carefully studied with deliberation because changes inevitably would create a

situation which almost certainly would compel the Federal Trade Commission to reverse in retrogression. It was argued that virtually all existing Fair Trade Practice Rules would become obsolete, and it would be necessary, probably, to recast them, or to bring cease and desist proceedings against many industries which now are functioning consistently within the law. Within the Federal Trade Commission itself, it is understood, there was a definite split upon the question. It is generally assumed the division is three against two, among the five members. This division has been in existence for some time, and has affected other deliberations of the body.

It is one of the problems in the Capital that have been a perpetual headache to the White House. It is regarded as probable that the long protracted debate over the Toiletries and Cosmetics Fair Trade Practice Rules may be one of the reasons for the changes that may come in the membership of the Commission. It has long been known in the Capital that numerous conferences have been held concerning adjustments. It is doubtful, however, that any changes will be initiated until after the next election. Consequently, there is little likelihood that the Republican majority will entertain any suggestion for amendments to the Robinson-Patman Act until 1949.

#### EXCISE TAX ON TOILETRIES AND COSMETICS

Nor is it considered likely that the Congress will vote a reduction in the excise tax on toiletries and cosmetics. Congress is told by its experts, in and out of the Treasury, that present conditions will continue to cut down income taxes. The Congress is committed to reduction of income taxes, with promises it cannot ignore during an election year; prices are rising, and the nation is confronted by a program of European aid that will cost somewhere between \$20,000,000,000 and \$30,000,000,000 before the plan is fully completed.

This obviously spells that the anticipated cut of the excise from 20 to 10 per cent is only a very dim hope. The resistance of consumers to the excise tax, which is expected to be reflected in Christmas business, may make such a marked difference that there is a slight possibility that the showing may be a strong argument with the Ways and Means Committee of the House when it finally reaches a decision about the tax program.

We are told here that the industry expects its greatest



shrinkage in the very high-priced items. There are schedules of anticipated sales reductions floating around the Halls of Congress which indicate that manufacturers of toiletries and cosmetics apparently believe the bulk of sales will be in packages that cost from \$2.50 to \$10.00, as compared to sales that ranged from \$25 to \$125 during the immediate past years. Members of Congress have been told that the total sales this year will not go above the sales of last year which totalled \$700,000,000, an increase of 6 per cent above the sales of 1945. On the other hand, they are told, if the excise tax had been reduced to 10 per cent, the sales this year would have been from 12 to 17 per cent higher, owing to the current high purchasing power of the general public. The excise tax is blamed for drastic slashes in advertising appropriations. It is alleged, by those who have made industry arguments, that the cost of essential oils has gone up as much as 400 per cent, which will inevitably be reflected in the prices of perfumes and allied products.

This correspondent has not yet been able to make a detailed study of the effect of the tariff reductions which were accepted by the United States delegation at Geneva in negotiating the long debated Trade Agreements; but some items have been available for scrutiny which may be indices to what will be found upon more careful examination. For instance, the duty on coconut oil has been cut 50 per cent, from 2c. per pound to 1c. Orange oil may now be imported with a duty of 12½ per cent instead of the former impost of 25 per cent; eucalyptus oil has been reduced from 15 to 7½ per cent; clove oil, 12½ to 7½ per cent; mentholated peppermint oil, 25 to 12½ per cent; patchouli oil is bound at 12½ per cent; fractions of natural camphor oil, 12½ to 7½ per cent; sandalwood oil, 12½ to 10 per cent; pine needle oil, 12½ to 7½ per cent. A large number of essential oils were reduced in import duties at an average between 50 per cent and 33 1/3 per cent.

The various forms of perfumes and colognes, imported, were reduced from 40c. per pound plus 37½ per cent ad valorem to 30c. per pound plus 20 per cent ad valorem. Those not containing alcohol have been reduced from 37½ to 20 per cent ad valorem. Crude glycerine was reduced from 8/10c. per pound, and refined glycerine 1 7/15c. per pound to 1c. per pound; natural and synthetic menthol went down from 50c. to 40c. per pound; talc, reduced 40 per cent; unfilled perfume bottles, 75 to 50 per cent ad valorem; perfume jars, 75 to 37½ per cent. The duty on Cuban raw sugar was slashed from 75c. to 50c. per 100 pounds. It has been estimated this cut benefits Cuba to the extent of \$17,500,000 on the estimated 3,500,000 tons it will supply to the United States in 1948.

Price controls officially ended on November 1. But the Federal Government actually owned all sugar for 1947 on that date, and in reality the control does not expire until the supplies are exhausted New Year. It is reported here that next year's Cuban crop is expected to run as high as 7,000,000 tons, the highest on record.

Some of the enormous sugar surplus held by the Federal Government is expected to go to the Far East and to Europe, to the extent of not less than 500,000 tons. It is estimated that eventually, under the Marshall Plan, the United States will send to Europe somewhere between 1,700,000 tons and 3,500,000 tons of sugar. Export con-

trols over sugar and blackstrap molasses were reinstituted on November 1, but export license documentation is required only for sugar and blackstrap molasses shipped to Spain and its possessions. All other exports may be made under general license and do not require the documentation by the Office of International Trade.

From Batavia came word that citronella, the most important essential oil produced in the East Indies, apparently is promising in supply. The factories are remote in the interior, but word recently came out that nearly 90 per cent of planted areas and factories are flourishing, and that from 40 to 50 per cent of the prewar exports of 2,500 tons per year may be expected, if drums for packing can be obtained. Normal production is not expected for at least 7 or 8 years.

The President has recommended that American citrus juices be bought for European relief to the tune of \$18,500,000. It is believed here that the bulk of these purchases will be made in grapefruit juice. The War Assets Administration recently announced it has a supply of lemon juice powder, consisting of 1,116,000 twelve-ounce and five-pound cans. The original surplus inventory totaled over 3,000,000 cans. The material was located entirely in California and Washington State. The sales offer suggested that a 12-ounce can makes 6 gallons of lemon beverage, requiring 5 pounds of sugar. In England the lemon powder is used to sharpen the flavor of the orange concentrate and is reported to be successful in that compound.

The Bulgarian Political Mission in the Capital recently advised the Department of Commerce that it could offer for sale, in Bulgaria, some 87 varieties of materials which might appeal to some of the American toiletries and cosmetic industry. On the list were several varieties of peppermint, orange, thyme, coriander, juniper, anise, and the products of many flowers, leaves, herbs, fruit, roots, and miscellaneous. The Bulgarian Political Mission makes its headquarters at 2841 McGill Terrace, N.W., Washington, D. C. It will supply any details desired.

#### JAPANESE IMPORTS

Gen. McArthur recently advised the Department of Commerce that Japan needs, and is now permitted to import, cork, fats, oils, waxes, resinous balsams, other gums, and talc. On and after December 13, 1947, all import duties were raised on whatever is shipped into Mexico, except those items covered by the Reciprocal Trade Agreement of December 23, 1942. Copies of the new tariff schedule, as officially published, may be had by applying to the American Republics Division, Office of International Trade, Department of Commerce, Washington 25, D. C., at any field office of the Department of Commerce. Lebanon is reported to be a substantial producer of eau de cologne.

The Philippines have become large importers of toiletries, as has Madagascar. Cyprus, in the Mediterranean, imported perfumery valued at \$150,000 last year. Less than one-seventh of the geranium in cultivation in 1939 is reported in acreage this year in Algeria. Low prices, scarcity of fuels for distillation, and labor shortage, are blamed for the drop. Last year there was an increase in acreage, due to the purchases made by United States buyers, at higher prices. Tunisia, incidentally, is credited with buying a substantial volume of artificial perfumes from the United States in 1946.





# Season's Greetings



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# ★ NEW PRODUCTS AND PROCESSES

## Glass Lines

The Foster-Forbes Glass Co. has announced two new lines of bottles for cosmetic and toilet preparations. These lines feature simple but strikingly modern design. The "Foster Line" is moulded in sizes from 1/4 oz. to 16 oz., and features a wide base, smooth bottle, which tapers gradually upward toward a slightly narrower shoulder. The "Forbes Line" features a bottle of unusual design with smooth label surfaces and serrated sides. Forbes line bottles are manufactured in a range of sizes from 1 1/2 oz. to 16 oz. inclusive, in narrow finish only.



Foster-Forbes' New Line of Bottles

## Soap Dispenser

A new, all-plastic powdered soap dispenser, equipped with a strong lock, has been placed on the market. Made of amber plastic, shock-resistant, of such strength that it is said to be able to withstand repeated hammer blows, this dispenser reveals visually the level of contents. It may be operated with any brand of powdered soap.

## Acid Pump

A method of handling acids is provided by a manually-operated acid pump, supplied by the General Scientific Equipment Co. Corrosive and other liquids flow smoothly and stop instantly, coming in contact only with the corrosive-resistant tube and cannot affect other parts. When the pump is removed, the acid drains completely, it is stated. No tilting of the container is necessary and danger of a slip, splash or spill is minimized. The pump is supplied in hand or foot operated models.

## Disinfectant Materials

Orbis products Corp., New York, N. Y., has introduced "Carvacrol" and "Chlorcarvacrol."

"Carvacrol" has the following properties: Liquid phenol with properties similar to thymol; replacement for thymol where high price is prohibitive; phenol coefficient 25; may

be added directly to products having solvent effect; become more active against staphylococcus aureus in hot water; good preservative for textile soaps, gum solutions, etc.; good mold inhibitor; and good odor preventative.

"Chlorcarvacrol" has a high melting point; fine odor resembling thymol and chlorthymol; phenol coefficient approximately the same as chlorthymol; recommended where "Carvacrol's" coarser odor cannot be used; has high disinfectant power; an excellent preservative agent.

## Resin-Latex Label Adhesive

A synthetic resin-latex emulsion cement has been produced by Paisley Products, Inc., under the number 1707. Application is by hand brushing or with table model gumming machines. It is stated that the adhesive does not foam or build up on the rollers even under extended running periods. The permanent, fast-setting cement holds immediately on contact and will not shrink, crystallize or drop off.

## New Catalogs

"Prescription for Glycerines," a brochure presenting the technical story of the Solexol Process for the refining of vegetable, animal and marine oils, has been published by The M. W. Kellogg Co. The booklet presents in text, photographs and tables, descriptive and yield data on various oils and fatty acids.

The latest issue of Kiefer Calling is off the press. Copies may be obtained from The Karl Kiefer Machine Co., Cincinnati, Ohio.

Daintex, a liquid wetting agent and penetrant, is again available through Hercules Powder Co., Wilmington, Del. A small pocket-size folder describing the properties and uses of Daintex is available upon request.

A six-page, two-color booklet describing Orbiscide Rotenone Resins for the manufacture of agricultural sprays, household insecticides and specialty rotenone products has been released by the Insecticides Sales Division, Orbis Products Corp., 215 Pearl St., New York, N. Y. Formulae for the preparation of oil concentrates and garden sprays are given.

The latest price list of George Lueders & Co., 427 Washington St., New York, N. Y., is available to the trade without charge.

A technical bulletin summarizing results of preliminary tests with Toxaphene, a new insecticide against house flies, cockroaches, bedbugs and other insect pests, has been published by the University of Delaware. Toxaphene, a chlorinated camphene, is manufactured by the Hercules Powder Co. In addition to tables presenting results of tests against various insects, the bulletin describes the solubility, stability, and effect of storage on Toxaphene. Copies may be obtained from the University.

Carbide and Carbon Chemicals Corp. has published a new booklet, "Carbowax Compounds and Polyethylene Glycols." This booklet presents the properties, specifications and uses of a group of polyethylene glycol compounds ranging in molecular weight up to 6,000. A number of formulations are given for cosmetic creams and lotions, pharmaceutical ointments and bases, and various types of maintenance chemicals, such as industrial cleaners and polishes.

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## Harold Hutchins says . . .

### OLD NEW YORK

A Boy's Reminiscences (Oliver Morhouse), in Vol. 1 of "Old New York," edited by W. W. Pasko in 1890, includes the story that between Robinson St., now Park Place, and the next one, Murray St., was this sign—"Francis Adonis, from Paris, Hair Dresser." His customers were mostly his own countrymen, French refugees, and they preferred having their tonsorial operations performed at their homes. Hence, he was often seen upon the street, always bare-headed, carrying his hat doubled together, out of which protruded his combs, brushes, shears and strop. Upon the death of Louis XVI and Marie Antoinette, to whom Francis was hairdresser, he had left Paris for New York with the declaration that he would never again wear a hat, until a Bourbon ascended to the throne.

### PSYCHIC "STUFF"

The interrelationship of body and mind is accepted as a new discovery by too many unthinking people. The ancients knew all about it. The family doctor of the old school knew all about it. Benjamin Rush, the Philadelphia Quaker physician of the Revolutionary War period, and one of the signers of the Declaration of Independence, claimed the mentally ill were sick in all the body and not in the brain alone. He is accepted as the Father of Psychiatry.

### FOOLISH THOUGHTS

While sitting on a shoe shine stand recently, I wondered why nobody has come up yet with a permanent shoe shine? It should be easy, or is it? And while shaving, I suddenly realized there had been no notable improvement in this art or science since

the year One. Long ago, I heard this expression—The Italian barber tells his apprentice that well lathered is half shaven. Would that twice lathered completed the job.

### SPEAKING OF FIGURES

I recently saw a few startling figures. In 1880, the population of the United States was 30 per cent urban and 70 per cent rural. In 1940, or sixty years later, the population of the United States was 56 per cent urban and 44 per cent rural. So, just figure it out this way. In 1880, 70 people in the country had to raise food to feed themselves and 30 city cousins. In 1940, 44 people in the country had to feed themselves and 56 city cousins. And some people still wonder why food prices are soaring. Of course, we might see the other side of the mirror. All those city folk working for the farmer and the miner. New York grew from 3.4 millions in 1900 to 6.9 millions in 1930 and 7.4 millions in 1940. London was 4.5 millions in 1900, decreasing to 4.3 millions in 1930, and to 4.0 millions in 1940. Los Angeles gives these figures: 102,000 in 1900; 1.2 millions in 1930, and 1.5 millions in 1940.

### GREATER LIFE EXPECTANCY

Someone was worried about the increasing age of our population a while back. It is true, with greater expectancy of life, our people will be increasingly older. We live longer. And we now have a glimmer of hope. The number of births is greater than ever. So, we have an increasing reservoir of youthful people, too. Where are they going to live, though? The tales one hears today of money passing under the table. The gift of automobiles. The purchase of furniture as antiques, and the prices!

### AH YES, DREAM ON!

One happy man is a fellow who lives in the Northern part of New York State. He has room to move in. True, the hunting season was closed during the dry season, but soon it was legal to go hunting again. A little difference! He has health right at his own doorstep. And health is as unpredictable as contentment and happiness. And not a phenobarbital pill in the house! A little hard cider, maybe. A friend in his dog. A pal in his gun. And a home of his own. The furniture locally made. The vegetables grown in his own patch. Not much money, either hard or folding. Neighbors mean just that and he makes a good neighbor, too! Strangers passing through are made welcome. Ah yes, dream on!

### A SUGGESTED PROJECT

Once again we make mention of that endowment of laboratories for the instruction of embryo medicos in prescription writing and formulation of cosmetics for patients. Some firm in this tremendous industry is probably giving funds to institutions of learning and are failing to insist upon return of sorts. The problem of "tax advantage" is a phrase often mentioned. Well, how about it for this project? Some day, some month, some year, this business will wish it had had the foresight to endow the type of laboratory described. But, then the hindsight will, as always, be not quite as good as the foresight. The French had a phrase—"The retort you should have given at the foot of the stair, comes to mind at the top of the stair." A friend of ours has been looking for the supposed French equivalent of that phrase and hasn't found it. He quotes it as from the French. Perhaps some reader can help with the original.





**Christmas Greetings**  
and  
**Best Wishes for the New Year**



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**WANNA BET?**

For every person knowing Julia Ward Howe (1819-1910) and recognizing her as the author of the Battle Hymn of the Republic, not one in a hundred knows Samuel Gridley Howe—her husband. He was a famous physician, having graduated from the Harvard Medical School in 1821. He fought with the Greeks for their freedom from the Turks, and was an originator of a method of relief on a national scale. His greatest claim to fame was conducting the Perkins' School And Institute For The Blind, and his inventions of methods of teaching those without sight to read. One of his pupils, Anne Mansfield Sullivan, taught Helen Keller.

**INFORMATION FUND**

If a fellow only had the time, what a fund of information lies in the titles of the texts available from the Reinhold Publishing Corp., 330 West 42nd St., New York 18, N. Y. If you should send for their most recent list, someone, and it may be you, in your organization would undoubtedly find a title to help you in your business.

**A HOT SUBJECT**

The change of administration in the Health Department of New York City is based on the philosophy of what is called District Health Administration. This has been a hot subject for half a century. But the present incumbent of City Hall is saddled with a lot of costly real estate in the form of buildings and equipment, not being utilized. The requirements of the Welfare Department could have been met by this self same real estate, or so one gathers from listening. Further there is a lot of money in that Federal Hospital Plan, and perhaps the Hospital Department would have welcomed these self same buildings for money could be secured for enlargement. Anyway, it is felt New Yorkers can look for more, but not necessarily better, District Health. Not too long ago, a publication carried a story on the joint health, hospital and welfare department for a large city. Perhaps this may be the ideal time for City Fathers to become 20th Century minded and lag in the 19th Century. A fellow in the know and out to air his dog hinted at the trouble. It seems that in all other big cities, the health and hospital department are one, usually under the designation of Health

Department, or such. The boys in Washington phrase their legislation to suit. And the Health Department of New York is reported to have found itself the proud possessor of untold wealth for campaigns, which is a most hateful word, in venereal disease, tuberculosis and perhaps cancer, etc., for which it is not equipped. Then the Hospital Department has to provide the beds for the patients and the money is reported to stay with the Health Crowd. Their work is educational—save the mark—or at most ambulatory. Welfare takes the rap, too. Oh hum, how did I come to this?

**POST OFFICE PRAISE**

The Post Office is our greatest pet. We could not exist without it. But it sometimes is difficult to restrain irritation on lateness of mail, especially around the Holiday Season, or the seemingly arbitrary closings of post offices, or failure to deliver mail on those nearly holidays. We probably could take a box and go after the mail. But that does sort of shoot your morning, when you have to prepare copy every week for Harold Hutchins' *Drug & Cosmetic Newsletter*, as well as the material you are now reading for THE AMERICAN PERFUMER, and others, which shall remain nameless for the nonce. So, we will take the Post Office as it is and give thanks for same.

**THE RACKET TRAIL**

The cosmetic and perfume industry, as is well known, is frequently the victim of imitators. Every once in a while, you read about a lone wolf, or a small group of wolves, operating a phony check racket. The sums involved are small enough, when taken one by one, but over months or years the public is fleeced for plenty. The trouble these crooks take is tremendous. Checks are printed. Names of small and large firms are closely, but not actually, imitated. The same precautions taken by careful concerns are also taken by the crooks. The sum is done by machine. The number of the check is large. Signatures may be in counter-signing fashion, utilized by pay checks. If these crooks only worked at some legitimate business as hard as they do at their rackets, what success would follow. But no, the racket trail for them. And it isn't only in check-cashing either. Only recently, a gang of perfume counterfeiters was rounded up, after a period of several years of detective work in New York, Florida and elsewhere.

**"WHO IS SHE"**

Recent advertising copy of Richard Hudnut's Du Barry Beauty Preparations showed the picture of a charming young girl in a Nettie Rosenstein suit, and carried the heading of "Who is She"? A magazine carrying this copy fell into the hands of Lt. J. E. Fix, III, Hq. Co., 2nd. Bn, 511th Prcht. Inf., c/o Postmaster, San Francisco, Calif. On the face of the page advertisement, Lt. Fix simply wrote—"I wish I knew!"

**PURELY HISTORICAL**

How we have been able to grind out this department for a year and never mention that tycoon of Wilmington, Delaware, goes beyond understanding. Well, when did the first du Pont reach Wilmington? It was in 1801 and his name was Irenee du Pont de Nemours. He was 30 years of age and had studied under Antoine Laurent Lavoisier (1743-1794) and learned to make gun powder the modern way. An American, Dr. Samuel Latham Mitchell, had promulgated the theory and system of Lavoisier in the first medical journal to be published in the United States—The Medical Repository. But the story of "The Doctor," as Mitchell was always called, needs a page for itself, sometime.

**AMERICAN INGENUITY**

How each American can burst with pride, when another sufferer from far distant lands flies from the ends of the earth to have our super-specialists utilize our skills and our instruments to save lives, through the art of invasion of the body cavities with one or another tubes. Children are the ones we learn about, especially those who swallowed toys which stayed down in the air tubes and spaces, instead of the gut. And now, the same type of instrument tells the super-specialist if the patient has cancer of the breathing apparatus. Incidentally, some newer statistics imply that the non-smokers also suffer from lung cancer. We just can't seem to beat that Old Debbil. Not yet, anyway. But, some day a practically obscure investigator will come up with the solution of the riddle. It may be some fellow working in his garden, as did Mendel. Or in his kitchen, as did Perkin. Or in his make-shift laboratory as did Koch. It takes brains, rather than money. It takes brains, rather than publicity. It takes brains, rather than machines. Maybe you don't believe it? Well, how about Roentgen? And how about the Curie team?



# Orris Root extractions

by  
BRUNO COURT

*A fine collection of products from selected rhizomes of the Florentine Iris*

Orris Concrete Extra  
Orris Concrete Surfine  
Orris Absolute (Iris)  
Orris Liquid  
Orris Liquid Concentrated  
Orris Resinoid Extra for Extracts  
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Orris Resinoid Extra for Soap  
Orris "S" Resinoid for Soap Special  
Orris Resinoid Florentine

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**BORDEN AWARD WINNER**

Max A. Heinrich, Jr., of Lock Haven, Pa., was announced the winner of the first Borden Graduate Award at a recent gathering at the Philadelphia College of Pharmacy and Science. This award was made on the strength of college work leading to the degree of Bachelor of Science in Pharmacy, which Heinrich received last June, and affords him the opportunity to Graduate Studies in Pharmacy. J. H. McCain, Assistant Secretary of the Borden Company Foundation, presented the certificate and a plaque which will be hung in the College.

**SMALL BUSINESS**

The Department of Commerce has recently issued "Small Business and Regulation of Pricing Practices," available for 15 cents at the Government Printing Office. The pamphlet explains simply the many laws, Federal and State, governing resale price maintenance, discrimination in granting discounts or advertising allowances, basing point and zone pricing, etc. The chapter on price maintenance lists the States in which they are allowed, explains which products qualify and enumerates exceptions. The one on discounts tells on what costs you can vary discounts. The pamphlet is valuable to sales executives considering moving into new territories or adopting new methods.

**WHAT PRICE PROFITS?**

When some folks hear a cash register bong, they get the idea that manufacturing concerns are making terrific profits. Here's what happens, according to government reports of approximate figures for the manufacturing industry, to each dollar taken from the sale of manufactured things. Materials and supplies take 47 cents out of the sales dollar. About 35 to 45 cents of this is paid to workers for growing, mining, processing and transporting these materials. Nine cents of the tax dollar goes to the tax collectors. About four cents of this is then paid to government employees. Six cents of the same sales dollar goes for depreciation, maintenance, repairs and interest, while two cents go for advertising, and one cent for research. That leaves 35 cents of the sales dollar. Of that 35 cents, employees get 29 cents. What's left—six cents out of the sales dollar—constitutes "profits." But that's not the whole story. Three cents of the six-cent profit are set aside for tomorrow's jobs — plowed back into the company for new machines, expansion of plants, and more employment. The other three cents of the profit are paid in dividends to stockholders—the owners of the machines and tools and factory buildings. This stockholder group comprises some 15,000,000 people—workmen, teachers, grocers, bus drivers, and others who have saved and invested their money. So when you hear someone say profits should be eliminated, remember that fair profits mean continuing investment in factory equipment. And that means more jobs, higher wages, better products, and lower prices.

**TAX REVISION TEAMWORK**

Teamwork must be demonstrated in efforts for tax revision, in order to help unloose the driving force of free enterprise. Work opportunities must be furnished for some 600,000 additions annually to our working force. Our productive system needs rehabilitation and replacement along with expansion. We must stimulate that capital formation and that capital investment which underlie all productive progress. Taxes should be reduced on both small and large incomes. But above all, the tax rates on medium and upper incomes should be so modified as to release vastly larger sums for the building of plants and the development of products and the purchase of machines.

**STATE OF OUR INDUSTRY**

A new statistical series dealing with the financial conditions and operating results of all United States manufacturing corporations was inaugurated with the publication of a joint report for the first quarter of 1947 by the Federal Trade Commission and the Securities and Exchange Commission. The series has been developed to meet the needs of industry, Government and the public for overall current information on the financial condition of American business. According to the report, the net income after taxes of all manufacturing corporations for the first quarter of 1947 is estimated at \$2.7 billion. This reflected net sales of \$35.6 billion, costs and expenses of \$31.2 billion and Federal income taxes of \$1.7 billion. Total assets of all manufacturing companies amounted to \$88.7 billion at the end of March, 1947, while stockholders' equity was estimated at \$61.9 billion. Of the total assets, about \$24.3 billion was in the form of inventories, and \$28.4 billion represented net property, plant and equipment.

**FUTURE OF PHARMACY**

Students at the University of Oklahoma were recently asked to make predictions on things to come for pharmacy, between 1950 and 1960. Here are some of the predictions—There will be a radio-active drug for the cure of cancer in the later stages; Atomic energy will be converted to use in medicine; A drug will be developed for the cure of any type of cold; There will be developed a specific for the early stages of polio; registered pharmacists will be unionized; One vaccine will cover most of the diseases; Insulin will be perfected for oral use; Lungs from apes will be used as transplants in cases of advanced tuberculosis; prescriptions will be written for farm crops; A safe and effective treatment for leukemia will be discovered; and a cure for hay fever and other allergies will be perfected. Would that any one of these predictions come true!

**FAIR TRADE LAWS**

Economic Council is investigating the effects of fair trade laws on prices. Data was put together by the Federal Trade Commission and is now being brought up to date. The whole work will go to the president.

**FAIR TRADE**

Fair Trade evidently is not clearly understood by many parties. Certain ones have said that it is fixing prices, thereby increasing the cost of living. Fair Trade protects property rights and protects the consumer. It is the lowest price at which a merchant can sell such merchandise and remain in business. It is, in a majority of cases, a lower price than that for which the article was intended to sell, in order to show the merchant his recognized percentage of profit to enable him to pay his overhead and enjoy a respectable income. Labor is fair traded. For certain performances, labor is paid a minimum wage, in order that the laborer may receive enough to pay his expenses and enjoy a respectable living. Minimum generally means the maximum. Neither pay for a man's hire nor his property should be destroyed or even seriously impaired in order to take a selfish advantage of the situation. Fair Trade in labor, as well as fair trade in business, is an important factor in maintaining our standard of living. If we destroy one, the other must go with it, because one is interdependent upon the other. It is labor and merchandise, upon which there is no standard of price, where we find runaway and exorbitant prices.



# Jasmin 47

**J**ASMIN 47 is a highly-fortified base with delightfully flowery characteristics. It is suitable for use in creams, as well as in all other types of preparations, and may be used to distinct advantage in compounding.

Jasmin 47 is economical to use in view of its attractive price of \$20.00 the pound.

We invite your inquiry for a working sample of Jasmin 47.

"The Use Test Is The Only Test"

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	TORONTO		MONTREAL	

**"TAXES AND THE BUDGET"**

A program for Federal budget reform and tax reduction was presented recently by the Research and Policy Committee for Economic Development. The statement is the result of four years study and is one of a series of CED statements on National policy addressed to the problem of reducing fluctuations in national economy and sustaining high production and work.

**BUYS N.Y.Q.**

Announcement has been made by S. B. Penick & Co. of their purchase of the New York Quinine and Chemical Works. It is reported that no change is anticipated in the present method of conducting the business. In acquiring the company, it is said that this recent acquisition will give Penick an opportunity to increase the scope of their service in supplying basic medicinal materials.

**CHANGES NAME**

The Pennsylvania Salt Manufacturing Co. announces a change in the name of its acid-proof cement from Asplit F to Pennsalt HF, which denotes the cement's complete resistance to hydrofluoric acid in all strengths.

**REVISES OPERATIONS**

Sterling Drug, Inc., has revised its manufacturing operations, largely to accommodate increasing production schedules for the new Lyons Tooth Paste. Additional space, formerly occupied by the Centaur Co., has been taken over in Rahway, N. J., while Centaur has moved its operations to Monticello, Ill.

**A FAST REFLECTION**

Believed to be one of the fastest research reflections of advertising, merchandising and sales activities, "Beauty Buyers" reports for October, covering ten Cosmetic classifications, were issued only five days after the end of the month—November 5th—by Gwen Gibson Market Research, Inc., for the Oklahoma market. An example of "Beauty Buyers" extreme sensitivity is disclosed in its immediate reflection of the Lady Esther LIPCOLOR campaign. Although in stock at one unit of one national chain drug company several days in advance of the opening of the campaign, no sales were reflected during the first two weeks in September. A LIPCOLOR advertisement appeared in the Sunday September 14 OKLAHOMAN, with tie-in copy by a local

drug chain, whose 20 stores stocked the item. For the week ending September 20, "Beauty Buyers" reported LIPCOLOR with 7.7 per cent of total lipstick sales. The following week, department stores stocked the product and the report revealed LIPCOLOR sales rising to 11.3 per cent. The complete report for the month of October disclosed LIPCOLOR tied with the well-established Peggy Sage Lipstick for third place in total number of units sold and second in dollar volume in the Oklahoma City market. "Beauty Buyers" reports are published monthly, within five days after the close of each period, on lipstick, face powder, cake make-up, nail polish, cleansing and all other creams, hand lotions and creams, home permanents, deodorants and shampoos, all based on personal interviews with a critically-representative group of from 300 to 1000 Oklahoma City women.

**NEW TRAVEL SERVICE**

A new service for business firms and for executives traveling abroad has been made available with the opening of a business and convention department by World Travels, Inc., a Manhattan travel agency. The new service will cater to the specialized needs of exporters, importers, international bankers, manufacturers, engineers, buyers and others doing business abroad. Among the features offered are the arrangement of ship-board conventions for trade associations and sales-meeting cruises for corporations, the providing of offices and secretarial help for executives while abroad, and to serve as the traffic department for business firms of all sizes.

**EMPLOYEES ANNUAL REVIEW**

An "Employees Annual Review" outlining operations of the company for the past fiscal year, has been distributed to all employees of McKesson & Robbins, Inc., drug and liquor distributors, as part of a national program to develop closer understanding between management and employees in company divisions throughout the country. Dealing with the company as a whole, the Review cited an all-time high in employment of 8,738 employees, record sales of \$342,272,742 nationally, through 75 divisions in 35 States and wholesale service provided to more than 90,000 retail customers. The Review pointed out that nearly 3,000 employees have been with the company for 10 or more years and gave figures on employee benefits and the company's retirement plan. Also featured were

statistics, illustrated cartoon style, depicting the size and scope of the drug and liquor industries. In a section devoted to financial operations, the Review brought out the fact that the company's profit for the year was 2.83 per cent of net sales. It explained that the assets represented an investment of \$12,100 per employee.

**PURELY PERSONAL**

DR. RUFUS A. LYMAN, a towering figure in the field of pharmaceutical education, was presented with the Remington Medal on December 3, at a dinner held for him in the Hotel Pennsylvania, under the auspices of the American Pharmaceutical Association.

JOHN J. HEALY, JR., assistant general manager of Monsanto Chemical Co.'s Merrimac Division, has been elected a director of the American Institute of Chemical Engineers for a three year period.

I. H. BANDER, vice president in charge of drug and sundry sales for McKesson & Robbins, has been appointed to a newly-created position of vice president in charge of coordination of drug sales and buying activities. At the same time was announced the appointment of CHARLES T. LIPSCOMB, JR., formerly vice president and assistant general sales manager, to vice president and assistant general sales manager of McKesson & Robbins.

CHARLES B. McDERMOTT has been named divisional vice president of Winthrop-Stearns, Inc. He was formerly vice president and director of the medical department of Winthrop Products.

MRS. EDYTHE BELMONT, formerly with Bonwit Teller for the past 12 years, has been named retail consultant of Harriet Hubbard Ayer, Inc.

ROLAND J. DAHL, director of product development for E. R. Squibb & Sons, spoke last month at the Fordham University College of Pharmacy on the subject of "A concept of Product Development."

EDWIN MADISON ALLEN, former Chairman of the Board and former president of The Mathieson Alkali Works, died last month at his home in Rye, N. Y.

DR. ERNEST LITTLE, formerly Dean of Rutgers College of Pharmacy and a leading educator, has been nominated for the presidency of the American Pharmaceutical Association.





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Who Want Success Through Quality*

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CREATORS OF THE FINEST AROMATIC SPECIALTIES  
USED DURING THE PAST DECADE IN MANY OF THE  
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AMBRAROME  
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WILL PERSONALLY HELP YOU UTILIZE THESE THREE SOURCES OF OUTSTANDING  
RAW MATERIAL AND ENABLE YOU TO DEVELOP MODERN PERFUMES OF BEST  
QUALITY AND HIGHEST SALES APPEAL.

# THE ROUND TABLE —

## Hubert Schlienger Ends U. S. Visit

Hubert Schlienger of Bertrand Freres, Grasse, France, returned to France the latter part of last month following a two week visit in this country. While here he divided his



Hubert Schlienger



Fred J. Beyer

time between Fred J. Beyer and James V. Demarest, executive vice-president and secretary, respectively, of P. R. Dreyer, Inc., in calling on the trade. P. R. Dreyer, Inc., is the representative in this country for Bertrand Freres.

## S. B. Penick Buys New York Quinine and Chemical Works

S. B. Penick & Co., New York, N. Y., has acquired the New York Quinine & Chemical Works, Inc., according to an announcement by S. B. Penick, Jr., president.

Established in 1885, the New York Quinine & Chemical Works has occupied throughout this period a major position in the medicinal chemical field. The company manufactures and distributes a broad line of medicinal raw materials.

Headquarters and manufacturing plants are maintained in Brooklyn, and a branch house is located in St. Louis, Mo. Present plans call for continuation of the New York Quinine & Chemical Works' business along its established lines.

The new acquisition is in further-

ance of S. B. Penick & Co.'s policy of providing the widest possible line of basic materials for the pharmaceutical, wholesale drug and allied industries.

## Ungerer & Co. Distribute Bonuses to Employees

Ungerer & Co., New York, N. Y., was host to the members of its organization on the afternoon and evening of November 7 at the plant of the company in Totawa, N. J. Bonuses were distributed by Frederick H. Ungerer, president, to the employees after which dinner and dancing was enjoyed at the Essex Fells Country Club.

## Ph. Chaleyer and Louis Bornard In Reciprocal Agreement

Upon his return from Europe, Philip Chaleyer, president of Ph. Chaleyer, Inc., New York, N. Y., has announced the arrangement of a reciprocal agreement for the manufacture and distribution of Louis Bornard specialties in the United States and Ph. Chaleyer, Inc., specialties in France.



Louis Bornard

Louis Bornard a graduate of the Facultes des Sciences of Lyon, France, also attended the Chemisches Institute at Wiesbaden, Germany, where he specialized in organic chemistry.

In 1928, he founded the Laboratories Louis Bornard which was quickly recognized by French perfumers for products of quality and originality. Among his many creations are: Aldehyde Vert, Diasmol, Terpilenglycol, Cuirambre, Polemonia, Carexal, Vetariol and Novellione.

## Guest Speakers on Aromatics Course

A number of experts are scheduled to address the newly established course in aromatics at New York University. The first speaker was A. L. van Ameringen, van Ameringen-



A. L. van Ameringen



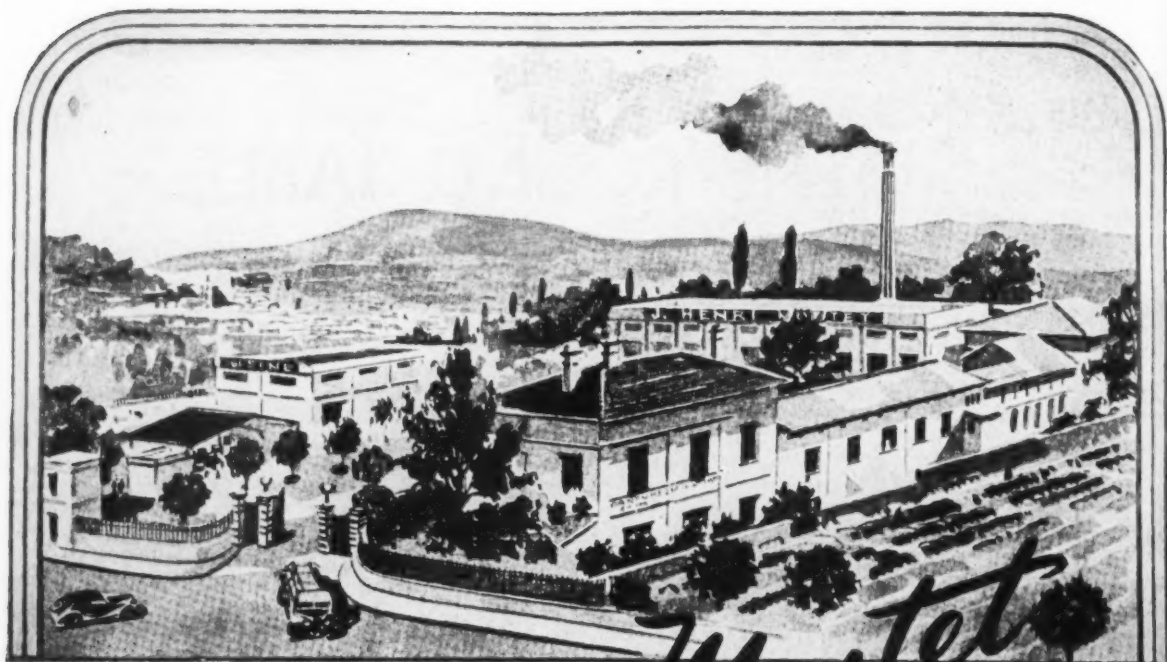
Philip Chaleyer

Haebler, Inc., who addressed the group Nov. 18, on "Characteristics of Good Perfume." He will be followed by Dr. A. Paccini, Prince Matchabelli, Inc., "Practical Aspects of Perfumes in Cosmetics and Toilet Preparations"; George Tombak, E. I. du Pont de Nemours & Co., Inc., "Industrial Application of Odor"; William Dunney, Ungerer & Co., "The Perfumer at Work"; and Philip Chaleyer, Ph. Chaleyer, Inc., "The Structure of Perfume."

The course is under the direction of Samuel Klein, Synfleur Scientific Laboratories.

## Col. Kimble and Eugene Laning Honored by Kimble Glass

Col. Evan E. Kimble and Eugene L. R. Laning, who this year completed fifty years of service with Kimble Glass, were guests of honor at a banquet and recognition ceremony held in Atlantic City, Nov. 1. Col. Kimble, founder of the Kimble Glass Co., and Mr. Lanin, treasurer of Kimble since 1924, each received Owens-Illinois Glass Company's highest service award: a recognition pin consisting of three diamonds set in solid gold.



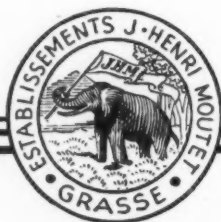
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## Gabriel Varvat Elected President of Roure-Dupont

Gabriel Varvat, who has just been elected president of Roure-Dupont, Inc., New York, N. Y., is well known in the industry throughout the world. After completing his education at the University of Droit and becoming License en Droit, he enlisted in World War I, where he served on the Western Front as first lieutenant in the Artillery. For distinguished service he was awarded the coveted Croix de Guerre.



Gabriel Varvat

After being mustered out in 1919, he joined Roure Bertrand Fils and Justin Dupont in Argenteuil, France, as perfumer. He served in that capacity for eight years and then came to the United States in 1927. A few years later he was elected vice-president of the American company, which position he held up to his election this month as president.

Mr. Varvat is an American citizen and resides with his wife in New York City, while his son, who, like his father, served as a lieutenant in the Artillery in World War II, lives in Paris. Again, like his father, his son was wounded, was also awarded the Croix de Guerre.

In the last two decades since he has been connected with the American company, Mr. Varvat has witnessed its commendable growth. In that time, a Pacific Coast branch was opened in Los Angeles, so that with its branch in Chicago and with representatives in other cities, the company is able to give more efficient service to its customers in all parts of the country.

Mr. Varvat is an enthusiastic hunter and when the season opens he trails game in the Catskill mountains; and true to the tradition of most presidents, he is also an ardent fisherman.

In addition to his responsibilities as president of the company, Mr. Varvat will continue to act as perfumer.

## Ralph Bush Retires from Dodge and Olcott

Dodge and Olcott, Inc., New York, N. Y., has announced the retirement of Ralph W. Bush after 59 years of continuous service. Mr. Bush, who was secretary of the corporation,

played a prominent role in the growth and development of Dodge and Olcott.

Mr. Bush joined the company June 27, 1888, immediately after leaving school. Always an advocate of product diversification, Mr. Bush was instrumental in the establishment of the perfume and flavor department. He was also charged with the responsibility of production facilities at 180 Varick St.

## Enjay Co. in New Home

Enjay Co., Inc., has moved to new offices at 15 West 51st St., New York 19, N. Y. The telephone is Columbus 5-2700.

## TGA Scientific Section Mid-Year Meeting

The mid-year meeting of the Scientific Section of the Toilet Goods Association was held December 4 at the Hotel Waldorf-Astoria.



Paul H. Douglas

Following an address of welcome by Paul H. Douglas, president of the association, the following papers were presented: "Experimental Principles in Cosmetic Studies.

Part II, Body Powder" by Erwin Di Cyan, Di Cyan and Brown; "Liquid Nail Polish" by Dr. Henry J. Wing, Northam Warren Corp.; "A Method of Color Control for Cosmetic Powders" by W. W. Edman, Evans Chemetics, Inc.; "Spectrophometric Methods of Analysis for Some Cosmetic Ingredients" by G. Robert Clark, Cosmetic Division, Food and Drug Administration; and "Emulsion Consistency as Related to Analytical Constants of Triethanolamine" by Helen Diserens, Lois Hill and Patricia Miller, Bristol-Myers Co.

Following luncheon: "Methods of Evaluating the Functional Properties of Petrolatum" was presented by R. K. Rhodes, L. Sonneborn Sons, Inc.; "The Suspending Power of Gums" by Maison G. DeNavarre, Cosmetic Laboratories, Inc.; "Some Newer Commercially Important Essential Oils of the Western Hemisphere" by Dr. Ernest Guenther and Edward Langenau, Fritzsche Brothers, Inc.; and "Emulsifier Development and Evaluation" by I. R. Hollenberg, Van Dyk & Co.

## Antoine Chiris Expands

Antoine Chiris Co., Inc., New York, N. Y., has moved its administrative and general offices to 119



Leon A. Chiris

West 57th St. The laboratories and warehouse of the company will remain at 115 East 23rd St., and will be more than doubled in size and productive capacity.

The Chiris company is now producing in America many aromatic bases and raw materials which were formerly imported. The company recently acquired the services of another chemist trained in the Grasse factory of the House, thus following its custom of placing at the disposal of the American industry all of the technical capacity and experience which the house of Chiris has accumulated in the nearly 200 years of its activity.

F. E. Shoninger, who holds the dual position of president of Antoine Chiris Co., Inc., of New York, and managing director of Antoine Chiris, Ltd., in London, has announced that the English company has inaugurated a similar program of local manufacture in its laboratories located at Tadworth in Surrey.

Leon A. Chiris, who is chairman of the various Chiris companies throughout the world, has stated that it is the company's policy to facilitate the supply of Chiris products in every country in which the company operates.

Mr. Chiris, at the present time in the United States, is returning to Europe with Mr. Shoninger about the middle of December, when Mr. Shoninger will pay a lengthy visit to the Chiris factories in Grasse and to the British company. He will return to the United States at the end of January.

## New Laboratory for National Starch Products

National Starch Products has completed a new laboratory at 270 Madison Ave., New York, N. Y. The laboratory, completely enclosed, and in which an absolute control of humidity and temperature is maintained, is for tensile, shear and cohesion strength testers, abrasive testers and other instruments.

## Maybe "more production" isn't the answer to all our problems

AMERICAN INDUSTRY is already producing at almost double its pre-war rate. Yet with labor and material costs at an all-time high, the experts insist that we must produce still more goods, faster, more efficiently, if we are to avoid another boom-and-bust cycle.

We'll buy that—as far as it goes.

But let's never lose sight of the fact that production is only half the problem. Because for every increase in our rate of production, there must be a comparable rise in our *rate of sales*.

Actually, of course, there is no such thing as producing goods at a profit. Goods are *sold* at a profit—yes. And while production line savings are vitally important, it is of equal importance to keep down the

cost of *manufacturing sales*.

That is the function of *mechanized selling*—to produce sales on a mass production basis, and at the lowest possible cost per unit. Translated into more familiar terms, it simply means advertising to the right market, in the right way, at the right time.

Like the machine on the production line, good advertising is a multiplier of men's efforts, for it enables us to produce (and *earn*) far more than we could alone. And when it goes to work in business papers—with their tremendous concentration of hand-picked readers—advertising becomes the most efficient machine at our disposal for *manufacturing sales at a profit*.

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### THE AMERICAN PERFUMER & ESSENTIAL OIL REVIEW

*is one of the 129 members of The Associated Business Papers, whose chief purpose is to maintain the highest standards of editorial helpfulness—for the benefit of reader and advertiser alike.*

### George Merck Receives Chemical Industry Medal

George W. Merck was presented last month with the 1947 Chemical Industry Medal of the American Section of the Society of Chemical Industry. The medal was presented by S. D. Kirkpatrick, editor of *Chemical Engineering*, and former chairman of the Section. Mr. Merck was cited for the outstanding accomplishments of Merck & Co. under his leadership in the field of pharmaceuticals and also for his wartime contributions to the American chemical industry.



George W. Merck

### Chemical Market Research Meetings

The schedule of meetings for the Chemical Market Research Association for the balance of the fiscal year is as follows: January 22, 1948, Washington, D. C., Mayflower Hotel; March 11, New York, N. Y., Bilt-

more Hotel; April 22, Chicago, Ill., hotel to be announced; June 3, New York, N. Y., Biltmore Hotel.

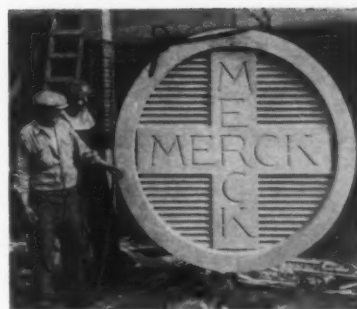
The meeting on January 22 will be sponsored by the Statistics Committee of the Association, and prominent Government officials are expected to address the group.

The April 22 meeting is the same week as the American Chemical Society's spring meeting in Chicago. The June 3 meeting will be a business meeting.

### Walter Hogan Forms Walter J. Hogan & Co.

Walter J. Hogan has entered the essential oil field, forming the company Walter J. Hogan & Co., Inc., 20 West 55th St., New York 19, N. Y. The company will carry a line of Spanish essential oils and sundries, as well as other selected essential oils. Spot stocks will be carried in a warehouse in New York.

Mr. Hogan has been connected with the essential oil industry for the past 15 years. A graduate of Holy Cross College in 1922, where he specialized in chemistry, Mr. Hogan resides with his wife and two daughters in Manhasset, L. I.



Workmen checking the 2,300 pound insignia of Merck & Co., Inc., before elevating it to its final position on the new research and development building at Rahway, N. J. The plaque is 6 feet in diameter and 6 inches thick, and is made of Indiana limestone.

### Jean Niel In New Office

Jean Niel, Inc., has announced the removal of its office to 135 Fifth Ave., New York 10, N. Y.

### DCCMA Announces Dinner Date

The Drug, Cosmetic and Chemical Credit Men's Association has announced a dinner and dancing date for January 30, 1948.

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#### Herbert Rosenthal Becomes Sales Manager of Associated

Herbert D. Rosenthal has been made vice-president in charge of sales of Associated Products, Chicago, Ill. He had been vice-president and general sales manager of Pinaud and Co. for the past 14 years, and previous to this general sales manager of Helena Rubinstein.

Jack D. O'Connor has been made assistant sales manager. Mr. O'Connor had been in charge of chain store sales.

#### Dr. Behr Addresses American Society of Perfumers Meeting

Dr. Arthur Behr, director of research, Aromatics Division, Dow Chemical Co., was the guest speaker at the October 15, meeting of the American Society of Perfumers. He spoke on "Some Problems and Approaches to Aromatics Research." Forty-six members and guests were present.

A very interesting informal discussion followed Dr. Behr's presentation and many members requested Dr. Behr's return at some future date. William Dunney Sr., Ungerer & Co.,

president of the Society, presided at the meeting.

#### Voss Appoints Members to TGA Convention Committee

Karl Voss, chairman of the Convention Committee of the Toilet Good Association, Inc., has appointed



Karl Voss

the following members of the raw materials and supply industries to serve with him on that committee: Paul E. Forsman, C.H. Forsman Co.; P. E. Haebler, Goldschmidt Chemical Corp.; M. Lemmermeyer, Aromatic Products, Inc.; A. R. Ludlow, Jr., U. S. Industrial Chemicals, Inc.; Edward D. Russell, *American Magazine*; Lamson M. Scovill, Scoville Mfg. Co.; J. W. Thayer, Owens-Illinois Glass Co.; K. W. Tracy, Fritzsche Brothers, Inc.; and J. Blaine Walker, Hazel Atlas Glass Co.

The Convention will be held at the Waldorf-Astoria Hotel, New York, N. Y., on May 18, 19 and 20.

#### Trade Secrets Injunction Obtained by Heyden Chemical

A temporary injunction preventing the disclosure of trade secrets and other confidential information concerning formaldehyde and its derivatives has been obtained by Heyden Chemical Corp., New York, N. Y., against the firm of Burrell and Niedig. The order was granted November 17, by Vice Chancellor John G. Grimshaw, sitting at Paterson, N. J., in the Court of Chancery of New Jersey.

#### European Chemists Honor Prof. Carl Neuberg

The American Society of European Chemists and Pharmacists held a special session November 5 in the auditorium of the Master Institute, New York, N. Y., to celebrate the 70th birthday of its Honorary Member, Prof. Carl Neuberg. Prof. Neuberg was presented with a medal sponsored by the society.

The meeting was followed by a reception where friends and members of the ASEC met in an informal manner and refreshments were served.

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## Sales Affiliates

### Depilatory Patent Upheld

Patent No. 2,352,524, held by Sales Affiliates, Inc., New York, N. Y., covering depilatories, was upheld by the 4th U. S. Circuit Court of Appeals at Richmond, Va., on Nov. 10th.

According to officials of Sales Affiliates, Inc., the decision is important not only with respect to odorless depilatories, but because "the decision may pave the way for a similar patent situation in the field of permanent waving, commonly known as 'cold waving'."

### Society of Cosmetic Chemists Offered Fine Program

The Society of Cosmetic Chemists, meeting at the Hotel Biltmore, December 3, was addressed by speakers offering an unusually fine program.

Dr. Raymond Kirk, dean of the graduate school of Brooklyn Polytechnic Institute, spoke on "The Chemist as a Professional Man." Other speakers were: Dr. L. C. Barail, United States Testing Co., Inc., "Bacteriological and Dermatological Testing of Cosmetics"; Dr. E. G. McDonough, Evans Chemetics, "Development of Machineless Perma-



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nent Waving"; Edward Sagarin, Givaudan-Delawanna, Inc., "An Inquiry into the Origin of the Literature on Perfumery"; Dr. S. H. Newburger, Food and Drug Administration, "Analysis of Mixtures of Hydrocarbons, Beeswax and Spermaceti"; and Henry Speel, Alrose Chemical Co., "Surface Active Agents in Cosmetics."

The program was announced by Dr. Emil Klarmann, Lehn & Fink Products Corp., president of the society.

### Kraft Chemical In New Quarters

Recently the office personnel of the Kraft Chemical Co., at 917 West 18 St., Chicago, Ill., moved into renovated quarters on a lower floor of its building at the above address. The new offices feature modern conveniences.

The old offices are being remodeled to provide additional space for laboratory facilities as well as a technical library.

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After a war time absence, Palmer's Eau de Cologne is back on the market. This cologne was first compounded by Solon Palmer in August, 1847.

#### National Inventors Council Requests Ideas—Inventions

The National Inventors Council, comprised of 16 nationally known scientists, inventors, and industrialists, has released a circular describing the Council as a "clearing house for inventions and ideas which will assist the Army, Navy, and other public agencies in solving technical problems affecting the national defense and welfare. Dr. Charles F. Kettering is chairman. The address is National Inventors Council Department of Commerce, Washington 25, D. C.



Benjamin d'Ancona, secretary of Polak & Schwarz, Inc., New York, N. Y., and formerly head of the perfume division of Polak & Schwarz, Paris, visited the newly established Midwestern branch in Chicago recently. Shown with Mr. d'Ancona at the Chicago office, 400 W. Madison St., are George W. Liddell, general manager of the Midwestern branch; Betty Freese, secretary of Mr. Liddell; Gustav Carsch, perfumer; and Kenneth Overturf, salesman.

#### A.C.C.L. Hold Meeting In Washington, D. C.

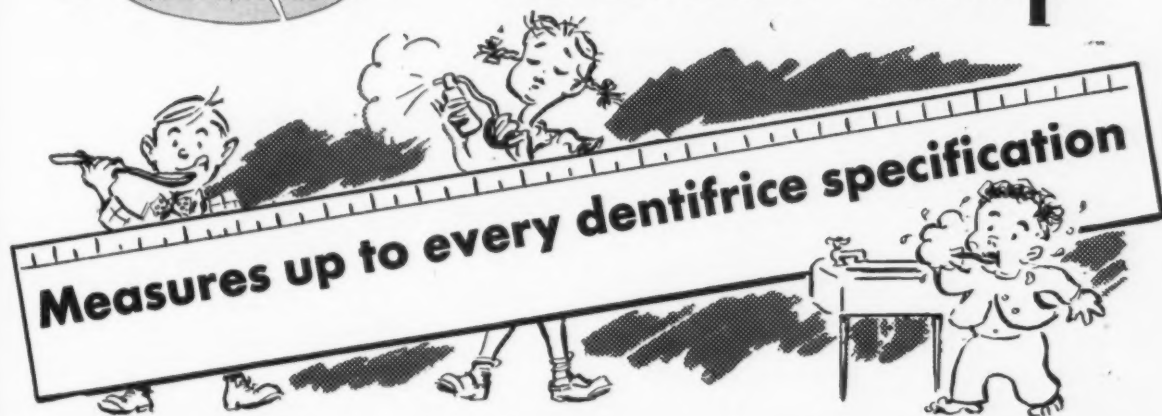
The American Council of Commercial Laboratories held its 16th meeting in Washington, D. C., on December 8 and 9.

#### Aroscent Moves To Brooklyn

Aroscent, Inc., has moved from its old address at 118 East 28 St., New York, N. Y., to 58 Underhill Ave., Brooklyn, N. Y.



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Cyclonol is chemically 1-methyl-3-dimethyl-cyclohexanol-(5). Graphically the structural formula is given in Fig. 1. It may be considered a lower homologue of symmetric or meta Menthol which has the structural formula shown in Fig. 2.

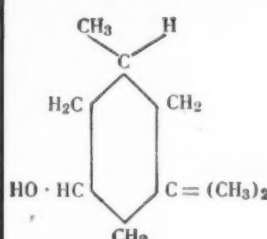


FIG. 1

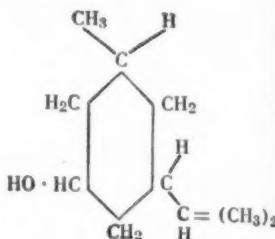


FIG. 2

Cyclonol replaces Menthol satisfactorily in shaving creams and lotions, liniments, analgesic balms, ointments and similar preparations. It has also been accepted by the U. S. Treasury Department as a Denaturant for alcohol in place of Menthol U.S.P.

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#### Dr. Burton Becomes Executive Director of Packaging Institute

Dr. Lawrence V. Burton has become executive director of Packaging Institute, Inc., succeeding Albin Dearing, resigned. Dr. Burton has been editor of *Food Industries* for the past 17 years, and has been a member of its editorial staff since it started in 1923.

#### Firmenich in New Quarters

Firmenich & Co., successor to Chuit Naef Aromatics, has announced the removal of its offices and laboratory to new quarters at 250 West 18th St., New York 11, N. Y. The telephone is Watkins 9-5220.

### Obituary

#### Dr. C. William Lenth

Dr. C. William Lenth died November 10, after a long illness. Dr. Lenth served the Association of American Soap & Glycerine Producers, Inc., in glycerin work for many years. During the recent war, he was Chief of the Soap and Glycerin Division of

the War Food Administration. He is survived by his widow.

#### Miss Elisabeth G. Magnus

Miss Elisabeth G. Magaus, sister of Percy C. Magnus, Joseph B. Magnus and Robert B. Magnus, officials of Magnus, Mabee & Reynard, Inc., died after a brief illness in Roosevelt Hospital, New York, N. Y., Nov. 16.

Miss Magnus was born in Atlanta, Ga., and after coming to New York with the family became active in civic and social work in Brooklyn, especially in the Brooklyn Eye and Ear Infirmary, the Faith Home and the American Red Cross. Miss Magnus was secretary of Magnus, Mabee & Reynard, Inc., and in addition to Percy, Joseph and Robert Magnus is survived by a sister, Mrs. Helen Horton.

#### Arthur L. Pulfrey

Arthur L. Pulfrey died October 20, while on vacation in Birmingham, Ala., at the age of 44. He had been director of personnel relations for National Starch Products, Inc., New York, N. Y., to which position he had been promoted only a few months ago.

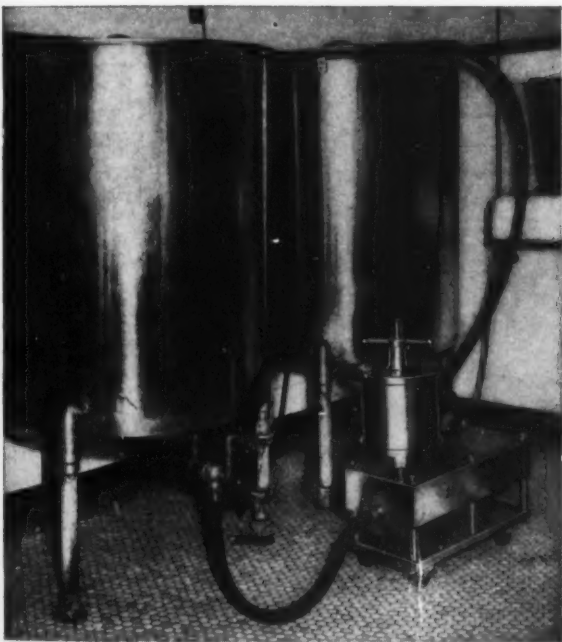
Mr. Pulfrey was vice-president and director of the Plainfield Chamber of Commerce, a director of the Plainfield Young Men's Christian Association, and vice-chairman of the Plainfield District Boy Scouts of America. He was a member of the Rotary International, the American Association for the Advancement of Science, the American Institute of Chemical Engineers, the American Chemical Society and the Institute of Food Technologists.

#### Edward J. Hemlock

Edward J. Hemlock, with Scovill Mfg. Co. 33 years, died November 12, in St. Johns Hospital, Long Island City, from a cerebral hemorrhage. He was 47 years old.

Mr. Hemlock was born in Waterbury, Conn., and started with the Scovill Mfg. Co., there. In June, 1927, he was transferred to the New York office where he has been ever since. He resided in Flushing, N. Y., and is survived by his widow, Mrs. Zita M. Hemlock, a son, two daughters and his mother. The funeral was in Waterbury, Conn. Mr. Hemlock was well known in the trade, particularly in the metropolitan territory, and will be missed.

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# MARKET REPORT

## Industrial Alcohol Prices Higher

**S**UPPORTED by a sharp advance in menthol, a definite reversal in the trend of a number of articles, and a seasonal broadening in sales, a decidedly better feeling developed among suppliers of essential oils, aromatic chemicals and closely related items.

A reversal in the price trend of some oils served to bring about a belated call for goods needed for the year-end holiday season. Buyers who had allowed inventories to run down to a dangerously low level suddenly realized there was nothing to be gained by remaining out of the market any longer.

The supply position in thymol is no better than it was earlier in the year despite recent predictions of a freer supply of material. Producers are well sold ahead. In some cases February was mentioned as the earliest period at which makers could accept further business.

The constant and rather sharp upturn in menthol was perhaps the outstanding development over the past month although most fats and oils displayed a hardening trend and closing prices on virtually all of the stearates were above those in force at the close of the preceding period.

### AROMATIC CHEMICALS

The situation in aromatic chemicals bears close watching. While certain articles especially those isolated or derived from natural oils have yet to reflect more favorable costs, those items of coaltar origin cannot be expected to react in the same direction since they did not advance to any extent during the period of rising raw material costs.

Another major price development in the market was an advance of 10 to 10¾ cents in refined glycerin prices. This upward movement occurred after it was learned that as much as 28 cents was paid for crude material. At the higher cost of crude, refiners realized that they no longer could continue selling refined material at the old prices.

Two of the country's largest glycerin producer-refiners have returned to the pre-war practice of writing six months contracts with glycerin consumers. While this practice benefits the individual consumer who has such a contract, it fails to promote the best interests of consumers as a group in the opinion of leading spokesmen in the industry. Under a contract, the consumer secures what amounts to six consecutive monthly options on specified amounts of glycerin which he may or may not exercise according to his requirements or discretion. If the contracting consumer fails to place shipping instructions during the month for all or part of the glycerin available to him in the calendar month, that portion of the contract tonnage automatically becomes cancelled and he cannot require delivery in a subsequent month during the life of the contract.

The contracting glycerin refiner must, therefore, reserve

a portion of his production each month in order to be in a position to make delivery as and if monthly contract options are exercised. If the tonnage he has reserved for contract options is not called for, it cannot become available to other consumers until the following thirty-day period. Glycerin remains one of the major commodities whose price is strongly affected by supply and demand. Since the latter part of August prices of soap-making fats have doubled with no corresponding increase in glycerin prices. At times when production is substantially larger than consumption, the tonnage reserved to protect contract options conceivably could affect the market.

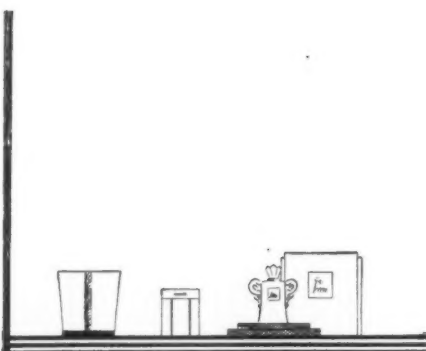
Both anise and cassia oils registered advances. Few offerings of anise oil were reported out of China since reports indicated that recent large purchases for the account of France had about absorbed all available lots in the primary center. Other essential oils displaying strength included cardamom, coriander, spearmint, and dillweed.

Prices on all formulae industrial alcohol were firmly maintained at the higher prices recently established. Although buyers are inclined to resist the higher prices, future developments bear close watching since present high production costs seem to suggest still higher levels. The supply position in alcohol is likewise firm. The gap between supply and demand is likely to widen between now and February or until new crop molasses is made available.

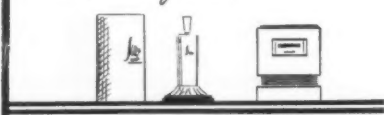
There were reports of a slightly better demand for ribbon tragacanth gum but the supply here appears more than sufficient to meet total requirements and no immediate change in prices is anticipated. Chatti and karaya gums, imported from Bombay, bear close watching since the interruption of transportation facilities, will, it is feared, bring about a shortage of supplies here with a corresponding increase in prices. Number one, two and three grades of karaya are included in the National Formulary thus restricting the uses of this gum by the drug, food and cosmetic trades to these particular grades. Fluctuations in gum arabic have been confined within narrow limits. According to reports stocks in outside hands have virtually disappeared from the market but a more urgent demand is needed to bring about the advance in prices that some trade factors have anxiously been looking for in the face of higher replacement costs.

### CITRIC ACID

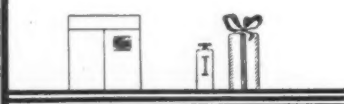
Demand for citric acid has continued along routine lines. Production costs have remained stable for some time and as a result no price developments have taken place. Import prices on tartaric acid have remained too high to permit any sizeable quantities to enter this market for domestic consumption.



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*cosmetic container*



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**Karl Voss Corporation**  
HOBOKEN NEW JERSEY

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(factory and main office)

# PRICES IN THE NEW YORK MARKET

(Quotations on these pages are those made by local dealers, but are subject to revision without notice)

ESSENTIAL OILS								
Almond Bit, per lb.	4.75@	4.90	Cloves, Zanzibar	1.50@	1.75	Orange, bitter	3.35@	3.75
FPA	4.50@	5.25	Coriander	27.00@	30.00	Brazilian	1.65@	2.00
Sweet True	.75@	.90	Imitation	7.30@	8.85	Calif., exp.	1.75@	2.00
Apricot Kernel	.65@	.85	Croton	5.00@	5.75	Orris Root, abs. (oz.)	135.00@	
Amber, rectified	1.35	Nom'l	Cumin	6.25@	6.75	Artificial	36.00	Nom'l
Angelica Root	125.00@	180.00	Dillseed	6.50@	7.00	Pennyroyal, Amer	3.85@	3.95
Anise, U. S. P.	.90@	1.15	Erigeron	2.75	Nom'l	European	4.00@	4.85
Aspic (spike) Span.	1.75@	2.00	Eucalyptus	1.00@	1.50	Peppermint, natural	8.25@	8.50
Avocado	1.00@	1.10	Fennell, Sweet	3.50@	4.20	Redistilled	8.75@	9.00
Bay	1.20@	2.50	Geranium, Rose, Algerian	15.50@	20.00	Petitgrain	3.25@	3.75
Bergamot	5.25@	5.60	Bourbon	12.00@	14.50	Pimento Berry	4.85@	5.25
Artificial	3.50@	4.25	Turkish	6.20@	8.25	Pinus Sylvestris	3.25@	4.10
Birch, sweet	2.75@	5.00	Ginger	8.25@	8.90	Pumillonia	4.00@	4.50
Birchar, crude	1.35	Nom'l	Guaiac (Wood)	2.25@	2.60	Rose, Bulgaria (oz.)	30.00@	48.00
Birchar, rectified	4.10	Nom'l	Hemlock	2.35@	3.00	Synthetic, lb.	20.00@	28.00
Bois de Rose	2.75@	3.50	Juniper Berry	6.00@	10.00	Rosemary, Spanish	1.20@	1.60
Cade, U. S. P.	.70@	.90	Laurel leaf	20.00@	21.00	Sage, Spanish	2.40@	3.50
Cajeput	2.45@	3.00	Lavandin	2.00@	2.55	Sage, Dalmation	4.50@	5.00
Calamus	20.00@	25.00	Lavender, French	4.75@	9.80	Sandalwood, N. F.	16.35@	17.00
Camphor "white" dom.	.55@	.65	Lemon, Calif.	3.35@	3.50	Sassafras, artificial	.90@	1.00
Cananga, native	6.85@	7.60	Italian	3.85@	4.85	Ocotea Cymbarum	.90@	1.00
Rectified	9.50@	11.25	Lemongrass	1.45@	2.00	Snake root	18.00@	22.00
Caraway	5.55@	6.00	Limes, distilled	4.25@	5.00	Spearmint	7.35@	8.50
Cardamon	25.00@	27.00	Expressed	9.75@	11.00	Thyme, red	2.75@	3.00
Cassia, rectified, U. S. P.	2.85@	3.25	Linaloe	4.00@	4.50	White	3.00@	3.25
Cedar leaf	1.10@	1.25	Lovage	95.00	Nom'l	Valarian	27.00@	32.00
U. S. P.	2.20@	2.25	Marjoram	5.50@	6.10	Vetivert, Haitian	28.50@	32.00
Cedar wood	.65@	1.10	Neroli, Bigarde P.	300.00@	375.00	Bourbon	31.00@	35.00
Celery	15.50@	20.00	Petale, extra	210.00@	265.00	Wintergreen	6.00@	17.25
Chamomile Roman	250.00@		Nutmeg	5.50@	6.00	Wormseed	4.50@	5.15
Cinnamon bark oil	40.00@	52.50	Olibanum	8.25@	10.00	Ylang Ylang, Manila	40.00	Nom'l
Citronella, Ceylon	.95@	1.80	Opopanax	30.00@	37.00	Bourbon	14.50@	20.00
Java	1.45@	2.00						

(Continued on page 607)

## OIL ORRIS ROOT LIQUID ABSOLUTE ORRIS CONCRETE ORRIS OLEORESIN (Resinoid)

Experience demonstrates that none of the substitutes for Orris are wholly satisfactory in giving the characteristic Orris note. It is therefore fortunate that these well known Bush specialties are now readily available.

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# KOMMON/ SCENTS!

No matter how one analyzes local elections, one conclusion is inevitable: Everybody still wants to know if Eisenhower will run as a Republican.

Naturally, there are some exceptions. They want to know if he'll run as a Democrat.

Both parties are trying to get him even harder than Rommel did. They argue it's a shame for a man his age to go back to college.

Of course, after what Lou Little's footballers did to Army we can understand "Ike's" interest in Columbia.

The defeat of Proportional Representation in New York City was a triumph for "two-party government." That's polite for Edward J. Flynn.

Among other burning issues was the State bonus for veterans. An informal poll among G.I. friends shows that they will save the bonus money to pay for next year's cigarette tax.

To the complete surprise of absolutely no one, winners and losers alike foresaw a trend for '48 in the outcome of the local elections. In the best terms of political equivocation it will boil down to "Dewey or Don't We?"

That's the great comfort of politics. Just when you begin to think there's nothing more meaningless than a politician's promise, you realize there is. That's a politician's prediction.

The Cosmetic Industry is missing a great bet in not engaging Representative Knutson as counsel. His proposed hidden tax program is the greatest camouflage job since the introduction of face powder.

*George Fiedler*



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*Cosmetic Company*

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For Perfumery For Over 100 Years

(Continued from page 605)

TERPENELESS OILS

Bergamot	13.50@	16.00
Grapefruit	65.00	Nom'l
Lavender	19.00@	22.00
Lemon	35.00@	40.00
Lime, ex.	65.00@	70.00
Distilled	42.00@	45.00
Orange sweet	110.00@	135.00
Peppermint	14.00@	15.80
Petitgrain	7.25@	8.00
Spearmint	12.00@	15.00

DERIVATIVES AND CHEMICALS

Acetaldehyde 50%	1.90@	2.75
Acetophenone	1.65@	1.80
Alcohol C 8	4.25@	4.75
C 9	14.00@	
C 10	4.25@	4.50
C 11	14.50@	
C 12	4.25@	4.50
Aldehyde C 8	11.00@	12.00
C 9	19.00@	20.00
C 10	7.00@	8.50
C 11	22.00@	24.00
C 12	13.00@	18.00
C 14 (Peach so-called)	8.75@	9.50
C 16 (Strawberry so-called)	7.65@	8.25
Amyl Acetate	.60@	.75
Amyl Butyrate	1.00@	1.10
Amyl Cinnamate	4.50@	5.80
Amyl Cinnamate Aldehyde	3.00@	3.85
Amyl Formate	1.05@	1.30
Amyl Phenyl Acetate	3.50@	4.00
Amyl Salicylate	.80@	.85
Amyl Valerinate	2.00@	2.25
Anethol	.65@	.75
Anisic Aldehyde	2.50@	2.85
Benzophenone	1.15@	1.30
Benzyl Acetate	.65@	.75
Benzyl Alcohol	.70@	.85
Benzyl Benzoate	1.05@	1.20

Benzyl Butyrate	2.00@	2.25
Benzyl Cinnamate	3.60@	4.00
Benzyl Formate	2.25@	2.50
Benzyl-Iso-eugenol	9.00@	9.75
Benzyl Propionate	2.00@	2.15
Benzylidene Acetone	2.00@	2.25
Bromstyrol	5.75@	6.35
Butyl Acetate	1.91 1/2@	1.93 1/2
Cinnamic Alcohol	3.05@	3.50
Cinnamic Adlehyde	.90@	1.10
Cinnamyl Acetate	4.75@	5.50
Cinnamyl Butyrate	12.00@	14.00
Cinnamyl Formate	10.00@	13.00
Citral, C. P.	3.85@	4.00
Citronellol	4.00@	4.80
Citronellyl Acetate	5.00@	6.25
Coumarin	2.75@	2.90
Cuminic Aldehyde	7.75@	10.00
Diethylphthalate	.40@	.45
Dimethyl Anthranilate	4.55@	5.00
Ethyl Acetate	.38@	.45
Ethyl Anthranilate	5.50@	7.00
Ethyl Benzoate	.65@	.90
Ethyl Butyrate	.80@	.90
Ethyl Cinnamate	2.45@	2.80
Ethyl Formate	.65@	.75
Ethyl Propionate	.75@	1.00
Ethyl Salicylate	.85@	1.00
Ethyl Vanillin	6.75@	6.80
Eucalyptol	2.50@	3.25
Eugenol	2.20@	2.75
Geraniol, dom.	3.75@	4.00
Geranyl Acetate	3.95@	4.15
Geranyl Butyrate	6.75@	7.80
Geranyl Formate	7.35@	7.90
Heliotropin, dom.	2.80@	3.50
Hydrotropic Aldehyde	6.95@	7.50
Hydroxycitronellal	7.45@	10.00
Indol, C. P.	19.50@	22.00
Ionones		
Beta	6.75@	11.00
Methyl	5.50@	6.40

Iso-borneol	1.30@	1.50
Iso-butyl Acetate	1.05@	1.75
Iso-butyl Benzoate	1.35@	2.50
Iso-butyl Salicylate	2.35@	3.00
Iso-eugenol	3.10@	3.75
Iso-safrol	1.75@	2.25
Linalool	4.00@	4.50
Linalyl, Acetate 90%	4.10@	5.25
70%	3.75@	5.25
Linalyl Anthranilate	15.00@	
Linalyl Benzoate	10.50@	
Linalyl Formate	13.00@	15.00
Menthhol	9.10@	9.60
Methyl Acetophenone	1.40@	1.80
Methyl Anthranilate	2.25@	2.40
Methyl Cellulose, f.o.b., ship-		
ping point	.60	Nom'l
Methyl Cinnamate	2.00@	2.50
Methyl Eugenol	4.00@	6.25
Methyl Heptenone	6.25@	7.00
Methyl Heptine Carbonate	45.00@	60.00
Methyl Iso-eugenol	5.85@	10.00
Methyl Octine Carbonate	24.00@	30.00
Methyl Naphthyl Ketone	3.25@	3.40
Methyl Phenylacetate	1.75@	2.20
Methyl Salicylate	.42@	.45
Musk Ambrette	7.00@	7.75
Ketone	4.95@	5.50
Xylene	1.60@	2.00
Neraline (ethyl ether)	2.00@	2.50
Paracresyl Acetate	2.25@	2.80
Paracresyl Methyl Ether	2.40@	3.00
Paracresyl Phenyl-acetate	4.75@	5.25
Phenylacetaldehyde 50%	2.75@	3.25
100%	4.20@	4.75
Phenylacetic Acid	1.75@	2.25
Phenylethyl Acetate	2.25@	3.10
Phenylethyl Alcohol	2.35@	2.75
Phenylethyl Anthranilate	16.00@	

(Continued on page 609)

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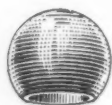
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Diacetyl, Acetyl Propionyl  
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Allyl Heptoate

### FAIRMOUNT CHEMICAL CO., Inc.

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(Continued from page 607)

Phenylethyl Butyrate	4.65@	5.00
Phenylethyl Propionate	4.10@	4.60
Phenylethyl Valerianate	7.50@	8.10
Phenylpropyl Acetate	5.00@	5.70
Safrol	1.10@	1.35
Scatol C. P. (oz.)	5.35@	6.00
Styrolyl Acetate	2.50@	3.00
Vanillin (clove oil)	4.50@	4.65
(guaiacol)	3.00@	3.05
Lianin	3.00@	3.05
Vetivert Acetate	70.00@	75.00
Violet Ketone Alpha	18.00	Nom'l
Beta	15.00	Nom'l
Methyl	6.50	Nom'l
Yara Yara (methyl ester)	2.20	Nom'l

#### BEANS

Tonka Beans Surinam	.90@	1.00
Angostura	1.75@	1.80
Vanilla Beans		
Mexican, whole	8.35@	9.50
Mexican, cut	7.50@	8.25
Bourbon	7.75@	8.00
Tahiti	4.25@	5.00

#### SUNDRIES AND DRUGS

Acetone	.09@	.14
Ambergris, ounce	8.50@	18.00
Balsam, Copaiba	.70@	.90
Peru	.85@	1.10
Beeswax bleached, pure		
U. S. P.	.65@	.70
Yellow, refined	.58@	.63
Bismuth, subnitrate	2.15@	2.28
Borax, crystals, carlot ton	74.50@	76.00
Boric Acid, U. S. P., ton	129.00@	133.50
Calcium, phosphate	.08@	.08 3/4
Phosphate, tri-basic	.0650@	.0680

Camphor pwd., domestic	.72@	.74
Castoreum, natural	12.00@	13.00
Cetyl, Alcohol	2.25@	2.55
Chalk, precip. bags, cfts.	.02 7/8@	.03
Cherry Laurel Water, jug, gal.	2.10@	2.50
Citric Acid	.23@	.26
Civet, ounce	8.00@	22.00
Cocoa, Butter, bulk	.38@	.40
Cyclohexanol (Hexalin)	.21 1/2@	.22
Fuller's Earth, Mines ton	27.00@	30.00
Glycerin, C. P.	.39 1/4@	.45
Gum Arabic, white	.29@	.32
Amber	.15@	.15 1/2
Powdered, U.S.P.	.19 1/2@	.21
Gum Benzoin, Siam	3.75@	4.25
Sumatra	.45@	.65
Gum Galbanum	.90@	1.00
Gum Myrrh	.50@	.65
Henna, pwd.	.35@	.40
Kaolin	.05@	.07
Labdanum	5.00@	7.00
Lanolin, hydrous	.23 1/2@	.26
Anhydrous	.25@	.27
Magnesium, carbonate	.11@	.12 1/4
Stearate	.48@	.49
Musk, ounce	25.00@	55.00
Olibanum, tears	.26@	.35
Siftings	.12 1/2@	.14
Orange Flower Water, gal.	1.75@	2.25
Orris Root, Italian	.24@	.35
Paraffin	.04@	.06
Peroxide (hydrogen) N.S.P.		
bbls.	1.10@	1.75
Petrolatum, white	.07 1/4@	.09 3/4
Quince Seed	1.45@	1.60
Rice Starch	Nominal	
Rose Leaves, red	3.45@	4.00
Rose Water, jug (6.6 gal.)	6.00	Nom'l
Rosin, M. per cwt.	10.15@	
Salicylic Acid	.40@	.42

Saponin No. 1	2.45@	
Silicate, 40°, drums, works,		
100 pounds	.95@	1.20
Soap, neutral, white	.20@	.25
Sodium Carb.		
58% light, 100 pounds	1.60@	2.70
Hydroxide, 76% solid, 100 pounds	2.90@	3.75
Spermaceti	.43@	.48
Stearate Zinc U.S.P.	.51@	.52
Styrax	1.10@	1.60
Tartaric Acid	.50@	.50 1/2
Tragacanth, No. 1	3.15@	3.80
Triethanolamine	.19 1/2@	.20 1/2
Violet Flowers	2.00	Nom'l
Zinc Oxide, U. S. P. bbls.	.12 3/4@	.14

#### OILS AND FATS

Castor No. 1, tanks	.27 1/4@	
Cocanut, Ceylon type,		
Atlantic ports, tanks	.24 1/2@	
Corn, crude, Midwest, mill,		
tanks	.29	Nom'l
Corn Oil, distilled, tanks	.33	Nom'l
Cotton, crude, tanks	.27 1/2	Nom'l
Grease, white	.26	Nom'l
Lard, Chicago	.24 3/4@	.25
Lard Oil, common, No. 1		
Chicago, bbls.	.29 1/4@	.29 3/4
Palm Niger, drums	Nominal	
Peanut, refined, tanks	.33	Nom'l
Red Oil, distilled drums	.31 3/4@	
Stearic Acid		
Triple Pressed	.39 1/4@	
Double Pressed	.37@	
Tallow, acidless, drums,		
Chicago	.28 1/2	Nom'l
Tallow, extra	.26 3/4@	
Whale oil, refined		Nominal

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FILLING, LABELING, and PACKAGING concern wants partner to help finance to manufacture and expand a complete line of cosmetics and etc. in the metropolitan area. Cosmetic chemist preferred. Write to Box 2747, The American Perfumer, 9 E. 38th St., N. Y. 16, N. Y.

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1—32 oz. Kiefer Vari Visco Filling Machine; 1—Fitzpatrick Comminuter; 2—Mikro Pulverizers; 2—Cream Fillers; 20—Stokes Single and Rotary Tablet Machines, from  $\frac{1}{2}$ " to  $2\frac{1}{2}$ "; 10—12" Belt Conveyors, 10' to 50'; 9—New 1000 and 2000 lb. Powder Mixers; 8—New Stainless Steel Kettles, 60 to 500 gal.; 10—New Stainless Steel Tanks, 100 to 2500 gal.; Burt, World, Ermold Labelers; 4—Auger Type Powder Fillers. BRILL EQUIPMENT CO., 225 West 34th Street, New York 1, N. Y.

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